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THE ATLANTIC MEDICAL JOURNAL

OCTOBER, 1925—SEPTEMBER, 1926

REPRESENTING

THE TRANSACTIONS OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

AT ITS ANNUAL SESSION HELD AT

HARRISBURG, PA., OCTOBER, 1925

AND

THE TRANSACTIONS OF THE MEDICAL SOCIETY OF DELAWARE

AT ITS ANNUAL SESSION HELD AT

WILMINGTON, DELAWARE, OCTOBER, 1925

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OUR STATE SOCIETY
ITS PAST AND FUTURE*

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This year marks the seventy-seventh milestone of the organization of our State Society and the seventy-fifth annual meeting, two meetings being omitted, the one of 1861 for reasons stated by Dr. Edward Wallace in his annual address at the session of 1862: "Twelve months since, the regular annual session of this Society was postponed, in consequence of the distracted condition of the country, growing out of the most wicked and unnatural rebellion the world has ever witnessed." The other, in 1889, was not held because of the disaster at Johnstown. The Society met at Pittsburgh, June 4, 1889, and after the meeting was called to order, announcement was made of the calamity which had befallen Johnstown. Resolutions of sympathy to the people, to the profession, and to the families of those who suffered were passed; the sum of one thousand dollars was appropriated to the profession of that locality; and the Society then adjourned to meet in September. In July, the Committee on Arrangements decided that the meeting should be "still further adjourned until the second Tuesday of June, 1890."

The history of medical organizations in America is an interesting one, and is of importance to us at this time so far as state medical societies are concerned. Prior to the organization of our own Society there were already in existence fifteen state societies, as follows: New Jersey, 1766; Massachusetts, 1780; South Carolina, 1789; Delaware, 1789; Connecticut, 1792; Maryland, 1798; Georgia, 1804; New York, 1807; Rhode Island, 1812; Vermont, 1813; Michigan, 1819; Virginia, 1821; Tennessee, 1830; Wisconsin, 1841; Alabama, 1846. It was not until 1847 that these state organizations formed the American Medical Association. In our own State, prior to 1848 we had about eleven component county societies, as follows: Warren, 1821; Berks, 1824; Franklin, 1825; Chester, 1828; Susquehanna, 1838; Mercer, 1843; Lancaster, 1844; Schuylkill, 1845; Lebanon, 1847; Mifflin, 1847; Montgomery, 1847. When we remember that Pennsylvania was foremost in medicine, in that she had the first medical school in America (the College of Philadelphia, which was founded in 1764 by two young men, Drs. William Shippen and John Morgan, and in 1789 was merged with the University of Pennsylvania, which had been chartered in 1779), it seems strange that eighty-four years should have elapsed and that fifteen state societies should have been organized before Pennsylvania felt the necessity for similar action.

The *Transactions* of our State Society, as well as the minutes of some of the county societies, contain valuable information pertaining to the organization of the Medical Society of the State of Pennsylvania. It appears that the first move in this direction came from Chester County, where, at a meeting on December 1, 1847, Dr. Wilmer Worthington offered the following resolution:

"WHEREAS, No state medical society exists in Pennsylvania; and believing that such an institution would greatly contribute to the advancement of medical knowledge within its bounds; therefore,

"Resolved, That it is expedient to hold a convention at such time and place as may be hereafter agreed upon.....

"Resolved, That the corresponding secretary be directed to forward a copy of these proceedings to the different medical schools and associations in the Commonwealth, and solicit their early coöperation."

These resolutions were apparently submitted to the various medical schools, medical associations, and county societies. In Lancaster County the interest aroused manifested itself in prompt and concrete action. Delegates were elected, and it was "resolved, that this society now proceed to the election of delegates to a state medical convention, for the purpose of forming a state medical society, at such time and place as may be hereafter agreed upon. Resolved, that the chairman of said delegation be authorized to correspond with other medical societies and col-

*Presidential address, delivered before the General Meeting of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

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leges in relation to this subject." It was further "resolved, that this society propose the city of Lancaster as the place of the meeting of the state convention, and the time Tuesday, the 11th day of April, 1848," which was also agreed to.

On March 8, 1848, a special meeting of the Lancaster County Society was held relative to the anticipated meeting of delegates, at which it was reported by the corresponding secretary that he "had corresponded with eighteen colleges and societies and received answers from a considerable number of them." A Committee of Arrangements was appointed, which on April 5th reported that a place for the meeting had been secured and that notices of the anticipated convention had been inserted in the public prints, specifying the time and place.

Therefore, on April 11, 1848, pursuant to the invitation of the Lancaster County Medical Society, there gathered in the city of Lancaster fifty-nine delegates, representing twenty-one medical schools and county societies. After a short preliminary session, a permanent organization was effected, and Dr. Samuel Humes of Lancaster was elected the first president. A constitution was drafted and adopted. It is an instrument which reflects the character of the members of the convention as a body of far-seeing and altruistic men. Two of the original articles are a part of our present Constitution: 1. The name and title of the Society shall be "The Medical Society of the State of Pennsylvania"; 2. "The objects of this Society shall be the advancement of medical knowledge; the elevation of professional character; the protection of the interests of its members; the extension of the bounds of medical science, and the promotion of all measures adapted to the relief of suffering, and to improve the health and protect the lives of the community."

It was not smooth sailing for this infant organization; it did not flourish and grow. The profession at large was not sufficiently sold to the proposition that medical organization was essential to its very life and existence. Petty jealousy toward each other, distrust, and animosity was the prevailing attitude. This and the constant fighting with the "irregulars and cults" were elements which could work for no good and were not the food necessary for a nurseling. The first annual meeting of the Society was, in consequence, a disappointment. There were thirty-four delegates, representing ten county societies present. This small number evidenced the indifference of the profession, and aroused the fear that the organization would fail and the dream of those interested in the project would not be realized. Therefore it was deemed advisable to address a letter to the profession throughout the State citing the importance of the Society.

The address of President Humes is the shortest of all the annual addresses, but it is a summing up of those principles which underlie the whole fabric of our profession. We do well to quote:

> When those only shall be selected for our profession whose preparatory education accords with the sensible views entertained by the committee appointed by the National Medical Association on that subject—
>
> When our medical schools persevere in the course promised for theoretical and clinical instruction—
>
> When our graduates in medicine select locations for practice without reference to their comfort and ease, but where their recently acquired knowledge can be brought into immediate requisition—
>
> When liberal and conscientious views are entertained in relation to medical consultation in extreme cases where the lives of valuable citizens are in jeopardy, and they are not deferred until the moribund condition—
>
> When only those are members of the profession whose thirst for wealth is merged in the more noble desire of becoming successful practitioners in medicine—
>
> When the infinitesimal humbugs of the day are superseded by the sober second thought of an enlightened community—
>
> And, finally, when our profession is distinguished for the liberal, benevolent, and gentlemanly bearing of its members toward one another—
>
> Then will the period have arrived, as predicted by the immortal Rush, "when casualties and old age shall be the only outlets of human life."

At the annual meeting held in Philadelphia in 1850, a resolution was passed "that the attention of the county medical societies throughout the State be called to the importance of furnishing reports on the state of health, the medical topography, the occurrence and progress of contagious and epidemic disorders within their respective limits, and such other medical intelligence as may be of importance to the State Society, and that a standing committee of five members be appointed to receive the annual reports from the county societies, and present them to the State Society, accompanied with such remarks as they may deem interesting." These reports were read, and, with one exception (the paper on "Prostatorrhœa," read in 1860 by Professor Samuel D. Gross, which was a classic such as was usually prepared by this most eminent surgeon), comprised the scientific side of the Society up to the session of 1868. At this session, two papers were read, and the following resolution was adopted: "Resolved, that the members of this Society be requested to prepare short papers on matters connected with the practice of medicine, surgery, and obstetrics, to be read at the next meeting of the Society." From this time on, the scientific side of the Society

began to be developed, until today the papers presented for our consideration are on a par with those of the National Association.

These county reports afford most interesting reading, and stand out as evidence of the wonderful ability of the country doctor, who, depending upon his God-given senses, did perhaps more for the profession than we are willing to concede. Discussed in these reports are compound fractures treated successfully, open wounds of the head with hernia of the brain, empyema of the chest, an accurate description of typhoid fever and its treatment, the yellow-fever epidemic of Philadelphia, smallpox, and the description of an epidemic of influenza in 1825. In 1855, Dr. Kitchen of Berks County used chloroform anesthesia in a case of labor with shoulder presentation, effecting a successful delivery. In 1863, Dr. Hiram Corson of Montgomery County gave a detailed report on 2,426 consecutive cases of labor occurring in his practice: 39 cases of twins; presentations—head 2,367, breech 46, face 9, shoulder and arm 4; stillborn 72; males 1,320, females 1,106; convulsions 9; deaths 5.

That the regular practitioner was jealous of his profession is evidenced by numerous resolutions looking toward establishing an advanced standard of premedical education for the student as well as the enactment of legislation which should regulate the practice of medicine, surgery, and obstetrics in this State, and in this way put into operation Article II of its Constitution. At the first meeting of the Society it was "resolved, that we approve of the standard of preliminary education recommended by the American Medical Association, and urge its strict observance upon county medical societies." The following preamble and resolutions were also submitted, which it was finally decided should be referred to the next meeting of the Society for action:

Whereas, it is evident that, for want of some wholesome law to regulate and guard the practice of medicine in the State of Pennsylvania, disqualified persons are permitted to impose themselves upon the public in undertaking what they do not understand, and pretending to what they do not possess, to the great injury of human health, and danger to human life; therefore,

Resolved, that as honesty and scientific attainments are considered essential prerequisites in every department of professional life, we deem them paramount in the assumption of the medical character.

Resolved, that as the guardians of the health and lives of the citizens of this Commonwealth, we respectfully call the attention of the Government and the people to the serious consideration of the establishment of a State medical tribunal, without whose authority, or that of an incorporated college, none shall practice under penalty.

Resolved, that a bill can be drafted, and may become a law, which shall be in keeping with the spirit of our republican institutions, and meet the wants of the people.

Resolved, that a committee of five be appointed to frame a bill which shall be submitted at the next annual meeting of the Medical Society of the State of Pennsylvania, and if approved, shall then be presented to the next legislative body, for their consideration.

This brought about a lengthy debate, after which the resolutions were rejected.

At the annual meeting of 1850 the following resolutions were adopted:

Resolved, that it be recommended to the several county societies to adopt regulations requiring their members to satisfy themselves, either by personal inquiry or written certificate of competent persons, before receiving young men in their offices as students, that they are of good moral character, and that they have acquired a good English education, a knowledge of natural philosophy and the elementary mathematical sciences, including geometry and algebra, and such an acquaintance, at least, with the Latin and Greek languages as will enable them to appreciate the technical language of medicine, and read and write prescriptions.

And further, that it be recommended to the county societies to make it the duty of a member having students in his office, from time to time to make such examinations of their progress as shall enable him to give them conscientious certificates of their abilities when they leave the office for the lecture room.

The better element of the profession, in face of the indifference of a majority of regular practitioners, the opposition of the colleges, which graduated large classes, the diploma mills, the hostility of the irregulars and cults, and the apparent apathy of the people at large, continued to direct its efforts along the lines suggested in the foregoing resolutions. They were finally rewarded, to a degree, by the enactment of a law approved April 12, 1875, which, however, was declared by a judge in Franklin County to be inoperative "by reason of unskillful drafting." A new bill was introduced in the next legislature and passed, becoming a law March 24, 1877. This was similar to a draft suggested by the Committee on Medical Legislation. It provided that any one practicing medicine, surgery, or obstetrics must be a Doctor of Medicine or have been in practice for five years prior to 1877 and must be registered in the county in which he practiced.

It was found necessary, because of some defects, to amend this law, which was done by the Legislature of 1881. The amended law, which was in most respects similar to that of 1877, required, however, that the degree of Doctor of Medicine must be conferred by a college having legal authority to do so. The college was the sole arbiter as to the qualifications possessed by its graduates. Graduates were being "turned out" in large numbers by the two-year colleges; consequently conditions were not materially im-

proved, and the necessity again arose for new legislation, which culminated in the law of 1893. This law remained in force sixteen years, and was the first enactment in this State which in a measure embraced the demands of the profession. The preliminary requirements were not very exacting, although it was necessary to have a competent common-school education, of which, apparently, the medical college was to be the judge. After 1895, a four years' medical course was established. There were three boards for the respective schools, Regular, Homeopathic, and Eclectic, which prepared the questions to be submitted to the applicants for license, and were similar except in therapeutics, practice of medicine, and materia medica. The examinations were supervised by a Medical Council which alone had the authority to issue the license necessary to practice medicine and surgery in Pennsylvania.

In 1909, Section 13 of the above act was amended to read that the applicant for license must have had a premedical "education covering not less than a four years' high school course, or its equivalent."

In 1911, radical changes were made in a bill presented to the Legislature, the preamble to which is the text for the proposed legislation: "Whereas, the safety of the citizens of this Commonwealth is endangered by incompetent physicians and surgeons, and a due regard for public health and the preservation of human life demands that none but competent and properly qualified physicians and surgeons shall be permitted to practice their profession....."

The practice of medicine and surgery was placed under the supervision of a Bureau of Medical Education and Licensure as an adjunct to the Department of Education, with plenary powers. It established a standard of premedical as well as medical education, the medical schools being under State control, as the Bureau was authorized to make annual inspections. Failure of the school to comply with the provisions of the Act made its graduates ineligible for licensure until such time as the institution returned to the prescribed standard. The Bureau, alone, had the authority to grant license to practice, as well as the power to revoke the license of any practicing physician, for certain specified reasons.

The Legislature of 1913 passed several amendments: It was made the duty of the Bureau to enforce all the provisions of the Act, and the manner of procedure in case of infraction was stipulated. The premedical education was raised by adding to the four years' high school course one year of college units prior to entering upon the study of medicine.

In addition to the college course, the graduate, before presenting himself for examination for licensure, was required to serve an internship of one year, as a postgraduate course, in an approved hospital. A minimum hospital standard was specified in the Act, and it was made obligatory upon the Bureau annually to inspect these institutions. Any hospital not meeting these requirements would be removed from the approved list until such time as it was apparent to the Bureau that it had again complied with the Act. This virtually placed the hospitals under State control.

Section VI, Paragraph 7, made provision for the licensing of "any person pretending to a knowledge of any branch or branches of medicine and surgery," by the Bureau. The Bureau has interpreted this clause to refer to the practice of drugless therapy, or the application of any measure other than by the use of medicine, surgery, or osteopathy. This broad provision makes it possible for any one complying with certain specific provisions of the Act, to become a limited licensed practitioner of the healing art.

In 1921, several amendments were adopted, the principal one of which authorized the Bureau to inspect hospitals and colleges in the State as to their qualifications for receiving graduates as interns, and also, by inspection, to satisfy itself that medical colleges and hospitals of other states whose graduates applied for examination were operating upon the same standards as Pennsylvania.

We have in this brief outline recited the activities of the Society for the uplift of the profession to the high plane it occupies today. From the first meeting of its organization, it has not ceased its efforts for the enactment of legislation which should place the practice of the healing art above reproach. Its endeavors have been altruistic in the extreme, the objective being to put into effect the second article of the Constitution—"to bring relief to the suffering, health to the individual, and the eradication of disaese."

The legislative activity during the last ten to fifteen years, has been mainly due to the work of the Medical Legislative Conference, which is composed of members from the three recognized schools of medicine. This Conference has been supported by voluntary contributions from the profession. It has been extremely active during each session of the State Legislature, and the members have willingly sacrificed their time without remuneration. Its efforts have been uniformly successful. Much vicious legislation has been defeated, and many bills having for

their object the welfare of the people have been enacted through its influence.

The legislatures have lent listening ears to our appeals, they have courted our coöperation and have invited our counsels. Although there have been differences in matter of detail, in the main, we have been met more than half way. Now that we have attained to the realization of seventy-seven years of endeavor, we are in honor bound jealously to guard our position and to strive to maintain the prerogative which is rightfully ours.

Not only was the Society interested in the uplift of the profession, but it believed that, as vital statistics were essential to the well-being of the people of the State, it was necessary to have such a bureau established as a part of the government of the Commonwealth. With this in view, the following resolutions were passed at the second session of the Society:

Resolved, that this Society approves of the adoption by our State Legislature of a law to secure a registration of births, marriages, and deaths, and that we earnestly recommend the subject to their earliest attention.

Resolved, that a committee of seven be appointed to have charge of this subject, and, if they deem it expedient, to take such means as may be calculated to secure suitable legislative action thereon.

Resolved, that county societies and medical men generally, throughout the State, be requested to use their influence in procuring the passage of a law to carry out the object contemplated by the forgoing resolutions.

At the session of 1850, the committee appointed the previous year presented the draft of a bill "making it the duty of the township assessors to collect the said information," and it was "resolved, that the Committee on Registration be continued, with instructions to continue their investigation, and, if they think it expedient, to urge upon the next Legislature, the passage of the bill as reported by them, or with any amendment they deem proper."

At the session of 1850-51 the Legislature passed a registration act, the preamble to which is interesting:

Whereas, from the death of witnesses, and from other causes, it has often been found difficult to prove marriage, birth, or death of persons, whereby the rights of many have been sacrificed and great wrongs have been done; and

Whereas, important truths deeply affecting the physical welfare of mankind, are to be drawn from the number of marriages, births, or deaths that during a term of years may be contracted, or may occur within the limits of an extensive Commonwealth.....

This bill reached the Governor, Hon. William F. Johnston, who, for reasons we have not been able to ascertain, withheld his signature, and the legislation failed. While the profession felt that the bill did not fully satisfy its expectations, the Society at the session of 1851 unanimously adopted the following:

Resolved, that we hail this first attempt, in the State of Pennsylvania, to accomplish so important a measure, as a token for good; and though the bill passed by the Legislature, in some of its details does not fully meet the views and expectations of this Society, still it is earnestly recommended to all upon whom the duty of carrying out its requirements devolves, to comply promptly with all those requirements, as accurately as possible, in case the bill should become a law.

Thus matters stood for thirty-four years. The only statistics, other than those kept by the Society as embodied in the annual reports of the various county societies, were those of the cities which had local boards of health operating under special acts of assembly; but for that great mass of people living away from the cities there were no records available. The Legislature of 1885, probably incited by the demands of the profession, enacted the first law creating a State Board of Health. The passage of this was announced to the Society, then in annual session in Scranton, by a communication as follows: "The members of the medical profession in the House of Representatives send greetings and congratulations on the final passage, today, of the bill establishing a State Board of Health without a dissenting vote." This communication was signed by twelve men.

The State operated under this Act, the boards of health of the cities continuing to function as before, until 1905, when there was created a Department of Health with a Commissioner, an Advisory Board, and a Bureau of Vital Statistics as a part of the Department with a State Registrar, providing for local registrars and reports from all parts of the State. This Department has developed, by additional legislation, broadening its field of action, increasing its responsibilities with powers of enforcement commensurate with its many obligations.

Some of the members of the Society, realizing that the annual *Transactions* were not meeting the needs of the profession, but that there was a necessity for a journal or medium which should bring to them at stated intervals all that was new and important in medicine, as well as such items of interest as would tend to solidify and enlarge the organization, at the annual session of 1862 the following resolution was passed: "Resolved, that a committee be appointed to consider and report at the next session of the Society on the expediency, importance, and practicability of establishing a Daily Medical Gazette," and citing six reasons. A committee was appointed, but there is no record of its having functioned or made any report.

In 1883, Dr. William Varian, in his annual

address before the Society, refers to the advisability of a State journal. No action on the suggestion was taken, but at the session of 1885 the Secretary presented, for Dr. Varian, the following resolution: "Resolved, that the proceedings of this Society be published in some medical journal of the State. Resolved, that the Publication Committee is hereby authorized to receive proposals, and award the publication to the best bidder, and that the journal so selected shall be regarded as the official organ of the Society." Sentiment had, however, not yet fully formed and the resolution was tabled.

More years passed, but events were taking place which were gradually shaping themselves for the consummation of the advent for which many had fondly hoped. In 1886, a company of seven physicians of Allegheny County undertook the publication of a medical journal whose policy should be different from that of any heretofore published. The *Pittsburgh Medical Review* was the result. "As time passed, the personnel of the editorial board changed, but its policy remained unaltered." (Atlantic Medical Journal.) One of the original company, however, continued his relations with the journal. "From 1892 to 1897, following the reorganization of the editorial board, Dr. Adolph Koenig assumed complete control of the *Review* without deviating from either its original ideals or policy."

At the meeting of the Society in Pittsburgh, May 18, 1897, the Publication Committee and the Board of Trustees were constituted a committee to secure proposals for the publication of a journal. Several offers were received, among them one from Dr. Koenig. After a conference between the committee and Dr. Koenig, an agreement was arrived at which was mutually satisfactory, and, on motion, "the Society instructed the Trustees to enter into a contract, as recommended, and the first number of the *Pennsylvania Medical Journal* appeared in June, 1897, thus launching the first of the many state medical journals." *(Pennsylvania Medical Journal.)*

On assuming charge of the State Journal, Dr. Koenig discontinued publication of the *Review,* merging it into the new journal. In doing this we note that the consideration for the transaction was one dollar and the understanding that nothing but ethical matter was to be given space on its advertising pages. This policy has been strictly adhered to, and although many flattering advertising offers have been made, no preparation has been accepted unless sanctioned by the Council on Pharmacy and Chemistry of the American Medical Association.

Dr. Koenig continued to edit and publish the new journal for a period of seven years. In the last number of the seventh volume, on relinquishing his position, there appeared from his pen a very interesting editorial. The correctness of his theory as to the manner in which he conducted the Journal has been proved as time has passed. In this year, a new editor and publisher, Dr. Cyrus Lee Stevens, took charge, conducting the affairs of the Journal until 1920, when, by legal transfer it became the property of the Medical Society of the State of Pennsylvania. Too much praise cannot be bestowed upon both Dr. Koenig and Dr. Stevens for their loyalty to, and their whole-heartedness in this project, and no compensation could be made to them for the many sacrifices they endured to leave us a heritage of which we may well be proud.

On the election of an executive secretary, whose duties included that of editing the Journal, the publication thereof was taken over by the Publication Committee of the Board of Trustees, where it has since remained. In 1921, the late Dr. Alexander B. Craig, Secretary of the American Medical Association, suggested the advisability of an amalgamation of journals of the medical societies bordering Pennsylvania on the south and east, with a view to thus centralizing medical thought and legislation. Through him, correspondence was entered into between the different state societies, with the result that the Medical Society of Delaware expressed a willingness to enter into the project, and hopes are still entertained for the ultimate realization of Dr. Craig's vision.

In April, 1923, the first issue of the Atlantic Medical Journal, continuing the *Pennsylvania Medical Journal* and the *Delaware State Medical Journal,* was presented to the two Societies. Comment on it is unnecessary; we believe it is a journal worthy of the medical societies it represents.

Feeling the obligation of a practitioner to a brother upon whom fortune has failed to smile, and who in consequence, when deprived of his only means of a livelihood has found himself reduced to the position of a suppliant, the Chester County Society was prompted to have its secretary present at the second annual session of the State Society a series of resolutions bearing upon this subject:

Whereas, when disease or accidents disqualify physicians from attending to their professional duties, they are placed in circumstances of peculiar helplessness, and their families deprived of their only support; and

Whereas, it has been the wise policy of the members of various professions and occupations to make provision for themselves and their families in the hour of adversity, and with the happiest results; therefore,

Resolved, that the delegates of this society to the State Society be instructed to bring the matter before that body so as to secure prompt attention to it, and procure its accomplishment in the best and earliest manner.

The members were sufficiently impressed with the proposition, and it was "resolved, that a Medical Beneficiary Fund be established by voluntary contribution, that the treasurer of this Society act as treasurer of said fund, and that he invest the sums contributed to this fund and the interest thereon as often as they amount to $100 in State or city loans, and that a committee of five be appointed to consider the above resolution, with instruction to report at the next meeting."

The committee made a thorough study of the matter, and at the next meeting of the Society in 1850 presented a lengthy and exhaustive but adverse report, because of certain difficulties which it felt made the move inopportune. It, however, recommended "that the whole subject be referred to the different county societies, with an earnest recommendation from this body that they take immediate action in the premises and report the result at the next annual meeting of the Society."

There is no record of any action on the part of the county societies on the recommendation of the committee, and no further move was made in this direction until 1905, when the present Medical Benevolence Fund was established. This fund was created by a revision of the Constitution and By-Laws, and comprised Chapter IX.

At the end of each fiscal year the sum of fifteen cents for each member shall be set aside by the Treasurer as a special fund, to be called the Medical Relief Fund. This fund shall be kept separate from other moneys of the Society, and may be invested by the Treasurer under the direction of the Council. It shall be used only for the relief of pecuniary distress of sick and aged members and of the widows, widowers, or children of deceased members.

The Council shall have authority to pay, through a Committee on Benevolence, such sums as it may deem proper to relieve the financial distress of any aged or sick member, or of the widow, widower, or children of a deceased member, under rules adopted by the Council and approved by the Society.

From this fund, never large, and which according to the report of the Treasurer September 1, 1924, showed a balance of $3,433, the Society has in a rather haphazard manner administered to the wants of several of its indigent members. The fund is so small, however, that the returns from the investment of the same are sufficient only to warrant the payment of amounts too meager to be of very material benefit to the recipient.

Coincident with the establishment of the Benevolence Fund, we note, in the Constitution and By-Laws as approved and adopted at the same session (1905), Chapter VIII, which reads as follows:

Section 1. At the end of each year, the sum of ten cents for each member shall be set aside by the Treasurer, as a special fund, to be called the Medical Defense Fund.....and shall be used only for the legal expenses of members threatened with, or prosecuted for, alleged malpractice.

Section 2 designates the manner in which this fund shall be used, and empowers the Society to employ a legal counsel as its representative.

The wisdom of this move is becoming more and more manifest. The efforts of the Society have so far been uniformly successful. The membership has never hesitated to sacrifice time and pecuniary interests to appear and support a fellow practitioner in his time of need. Many a member, haled before a court of justice, on the technical charge of alleged malpractice at the instance of a person who, feeling a fancied wrong, desires to recover damages (and often supported in his contention by an all too willing legal adviser), has been cheered and comforted by the financial and moral support of a great medical society.

On the election of an executive secretary, it was deemed advisable to have an office centrally located which would be easily accessible from all parts of the State, from which should radiate an influence that it was hoped would stimulate the component county societies to increased activity and additions to their membership. From this office, the Journal of the Society was to be published. It was soon found that to be at the mercy of a changeable landlord was not desirable and was attended with much uncertainty. The Board of Trustees, believing that permanent quarters were essential in order that the purposes of the Society might be carried out, decided to purchase a property whose title should be vested in the name of the Society.

The building at 230 State Street, Harrisburg, was purchased at a very reasonable price. The location is all that can be desired. The quarters are ample, and will allow for such additions as may be necessary to meet the needs of the Society from time to time. Thus, at the end of seventy-seven years of wandering we find ourselves domiciled in a place we call home.

A financial review is interesting. Article VIII of the Constitution adopted at the organization of the Society placed an assessment of two dollars on the component county societies for each delegate elected to the annual meeting. This prevailed until 1904, when it was amended to provide for a per capita assessment of the mem-

bership of the county societies, the Board of Trustees being empowered to fix the amount. The total receipts reported at the second annual meeting were $76, barely enough to pay for the publication of the *Transactions*.

Thus matters drifted along, the Society eking out a hand-to-mouth existence. In 1904 there was a balance reported by the treasurer of $860. Yearly this balance grew because of increased membership with a higher assessment, until about 1913 it had reached the sum of practically $10,000. The report of the treasurer dated September, 1925, reveals an almost unbelievable condition. The total assets are given as over $100,000. This has been possible by strict adherence to a policy of economy and a definite purpose of placing the Society on a self-sustaining basis. A complete accounting system has been installed, and the financial affairs are handled in a businesslike manner.

We have, thus, in a superficial manner reviewed the seventy-seven years of our medical history and its influence both upon the State and itself. The adoption of the second article of its Constitution established the plan of action to be pursued by the Society, and with a steadfast and altruistic purpose it began to direct its efforts toward putting it into effect. The many years of discouragement and disappointment did not tend to swerve it from its purpose, until finally success has, to a great extent, been attained.

We note that two distinct lines of action stand out: first, the elevation of the profession to meet the needs of the suffering, and the establishment by the State of a Bureau of Vital Statistics which, as an adjunct, was essential to the health of the people; second, a provision for the membership in the day of adversity when failing health and exhausted funds make dependent the man who, sacrificing his self-interests in his devotion to duty, has been unable to lay up treasure for himself against that day of want, and also a provision for a contingency such as may have to be faced by any one of us, when apprehended for a condition for which we may not be responsible yet are compelled to answer before a court of law, by a fund which shall supply financial support together with a loyal membership which will rise to give its moral assistance. If his case is clear, we will go with him to the end, until his name shall be cleared from all stigma and his position in the community restored.

The future policy of the Society has been determined: it is to carry on the work as prescribed in the Constitution handed down as a heritage from the Fathers. This has fixed the purpose of all activities for times to come. It is for us to keep on perfecting the profession, endeavoring to raise it to higher standards and loftier planes. From this objective there can be no retrocession; our work, in the very nature of things must be constructive. We must take the initiative in all matters pertaining to the health of the State, suggesting such measures, through our different committees, as will make it possible to meet conditions as they arise.

The public should be advised and educated by a publicity campaign, and the channel through which this can be accomplished is the Committee on Public Relations. Whether this be carried on through the daily press or by articles in our leading magazines will be for the committee to decide.

Our Committee on Public Health Legislation, working in conjunction with the Medical Legislative Conference, has been very active during legislative years. The plan pursued has been one mainly of objection to all measures tending to lower the standard of the healing art, and much vicious legislation has been defeated through its efforts. This has, however, not solved the problem, for every two years the same battle must be fought; it has only tended to prolong the time when this policy cannot any longer be followed. Even the patience of a legislator has an end. This brings us face to face with the proposition that it is imperative for us to present something concrete and constructive, if we hope to retain the support of the members of the Legislature who have in the past so loyally stood by us for that which we believe to be right.

The Committee should be authorized to make a thorough study of the situation, calling to its assistance any agency it may see fit. It should then draft a measure which in its best judgment would meet the requirements, and after approval by the Society, have it introduced at the next session of the Legislature and put forth every effort for its enactment.

The Conference has been financed by voluntary contributions from the membership of the Society. These varied from one to five dollars. Some of the component societies paid the prorata donation of one dollar from their treasuries. It is to be noted, however, that not every member has contributed. We feel that this work is of sufficient importance to demand the support of every member; no one can afford to turn a deaf ear to the appeal which is made every two years. It is a matter which vitally concerns every one who has the interests of the profession and the health of the public at heart.

The Benevolence Fund should be sufficiently large to allow for an annuity commensurate with

the needs of the recipient. In his report to the House of Delegates of 1924, Secretary Donaldson, commenting upon this fund, said:

> Increasing demands upon the earnings of our Benevolence Fund suggest the advisability of a careful consideration of plans for increasing the amount of the fund and the scope of its benefactions. While it is not desirable that the benefits from this fund should be at any time looked upon as resembling the benefits operative under health, accident, or old-age insurance, the amount of money available for distribution should be sufficiently large to render real service to beneficiaries whose financial income is otherwise inadequate to provide the ordinary necessities of life. The accumulation of an adequate fund by the puny allotment possible from our annual assessment has been and will continue slow. The fund should be enlarged by the contributions and bequests from those of our members financially able to contribute.

Requests for such contributions have several times been made, but the response has been all but negative. Whether this is pure indifference upon the part of the membership or whether they believe that the fund should be augmented from the receipts of the Society, we are unable to say. Inasmuch as nothing has been forthcoming from this source, we feel free to recommend that a substantial proration of the annual assessment be diverted into this channel.

The policy of sound finance must be strictly adhered to. Our annual per capita assessment of five dollars is very low. In quite a number of other states it is considerably higher. It might be well for the House of Delegates to give this serious consideration, with a view to eliminating appeals for voluntary contributions, to establishing a substantial Benevolence Fund, to increasing the Endowment Fund so as to provide for the assessment to the Medical Legislative Conference, to financing the annual sessions, and to meeting the continually increasing demand necessitated by broadening the scope of the Society's activities.

The Society has passed through a long transition period. Its inception came at a time not ripe for such a step. The unfortunate war with Mexico had just ended. Politically, the country was divided into hostile groups; the compromises on slavery were causing a spirit of unrest which was gradually but surely leading toward that bitter and never-to-be-forgotten struggle between the North and South. The practitioners who had served their period of probation in the office of their preceptors and been graduated from a qualified medical college were probably in the minority, and were bitterly opposed by that irregular element which spared no means to discredit them in their endeavor to raise the profession from that state of chaos into which it had descended.

Though often discouraged but never dismayed, they continued in their purpose, and today we see the evidence of their labor. As a Society we are better qualified to continue the struggle, being numerically the second largest in the country and thoroughly organized. The component societies are active, and there is evidence of a spirit of coöperation and determination for the right. There cannot be any compromise; this, in the very nature of things, is incompatible with the foundation of our organization. Art, science, and literature proudly point backward to their golden age. For the practitioner of medicine there has been no such time. Medicine's golden age is ever in the future. Its attainment is possible when we shall arrive at the state of perfection that can be reached only when "forgetting those things which are behind and reaching unto those things which are before, we press toward the mark for the prize of our high calling."

INFARCTION OF THE MYOCARDIUM

A REPORT OF TWO CASES WITH DETAILED ELECTROCARDIOGRAPHIC OBSERVATIONS*

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It is a well-recognized fact that sudden occlusion of a portion of the coronary circulation is attended by profound changes in the myocardium. The extent and degree of the resulting myocardial infarct depends on the size of the vessel occluded and the extent to which collateral circulation is established. Electrocardiographic study has proved to be a very important method in the clinical verification of this condition. The two cases reported in this study received very careful and repeated graphic study from the onset of the attack and during the convalescent period.

CASE I

A man, aged forty-seven years, was admitted to the Mayo Clinic April 21, 1924. He accompanied a relative who came for operation, and considered himself perfectly well. Twenty-eight years before, an operation had been performed on his right ankle for a condition which was said to be tuberculous. Six years before, he had had a mild attack of epidemic influenza. Venereal infection was denied. On the morning of April 21, after eating an unusually heavy breakfast, the patient was suddenly seized with severe retrosternal pain radiating into the left arm. He was brought to the Clinic within half an hour, and 0.9 mg. of nitroglycerin was administered under the tongue without relief. He was immediately placed in the hospital, and 16 mg. of morphin sulphate was administered subcutaneously.

*From the Section on Clinical Cardiology, Mayo Clinic.

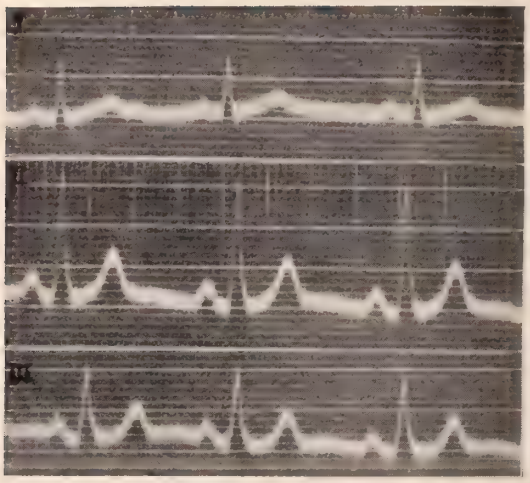


Fig. 1 (Case 1). April 21, 1924.

(In all records, time in 0.2 of a second, and 1 cm.=1 mv.)

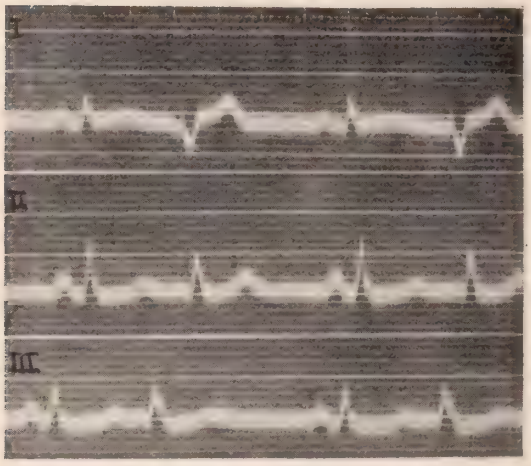


Fig. 2 (Case 1). April 23, 1924.

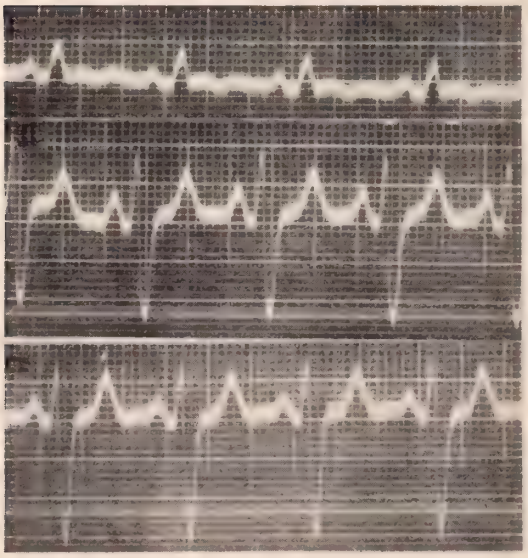


Fig. 3 (Case 1). April 24, 1924.

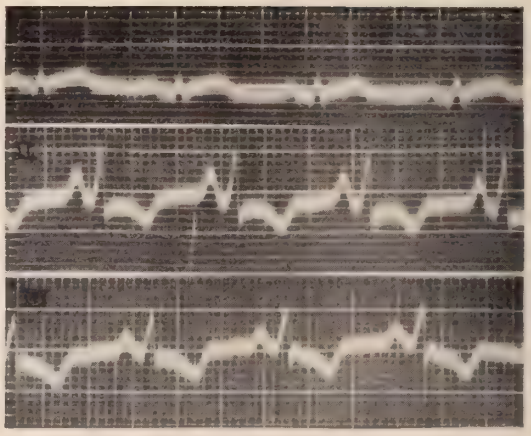


Fig. 4 (Case 1). April 24, 1924.

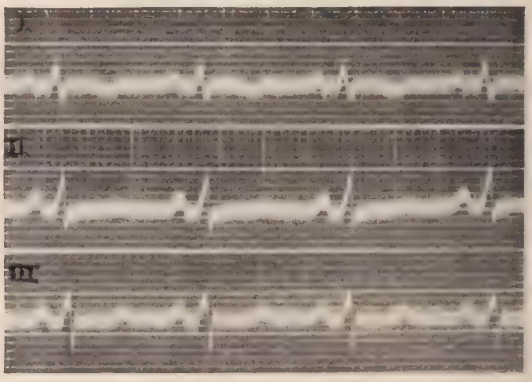


Fig. 5 (Case 1). April 28, 1924.

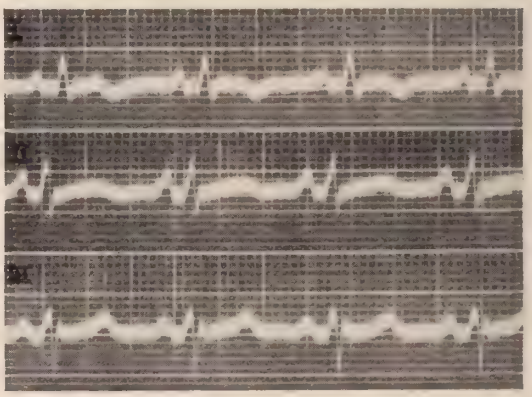


Fig. 6 (Case 1). May 1, 1924.

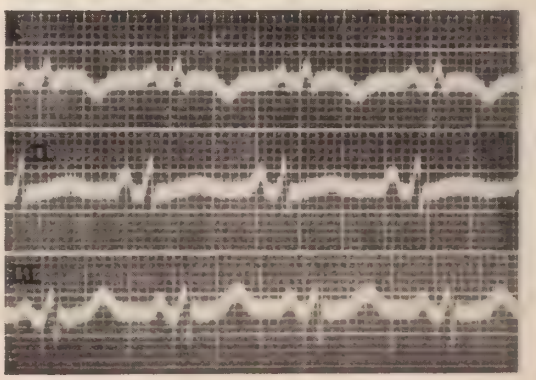


Fig. 7 (Case 1). May 7, 1924.

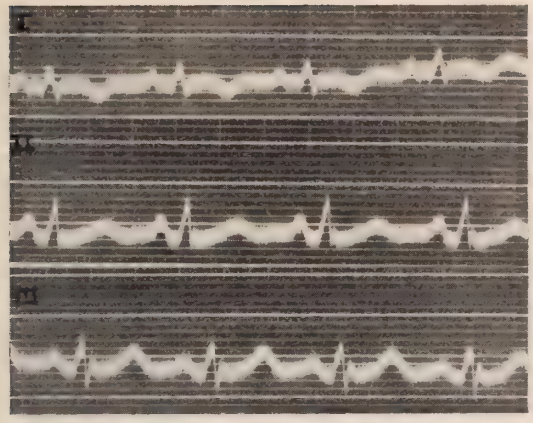


Fig. 8 (Case 1). May 14, 1924.

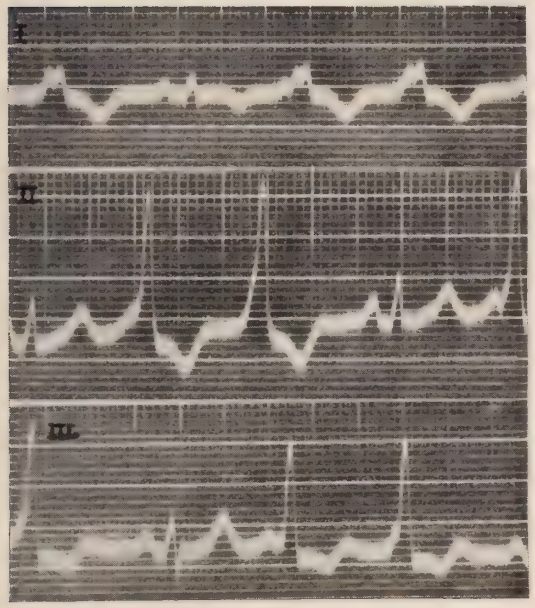


Fig. 9 (Case 1). May 23, 1924.

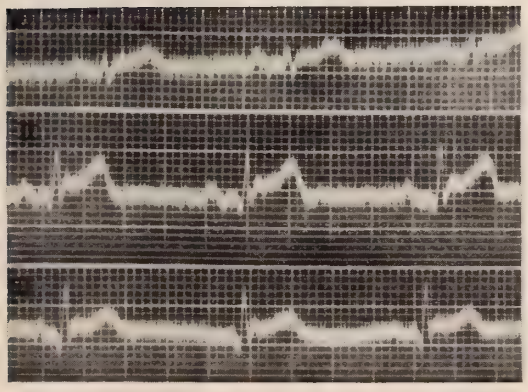


Fig. 10 (Case 2). October 14, 1924.

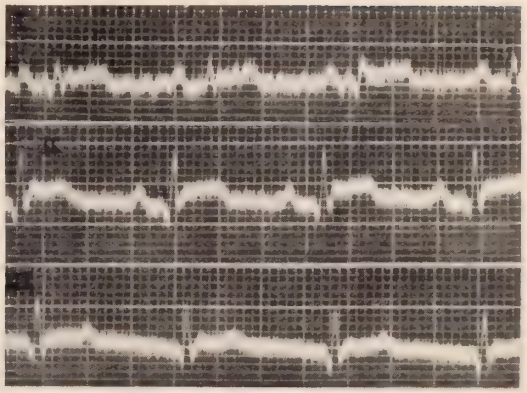


Fig. 11 (Case 2). October 15, 1924.

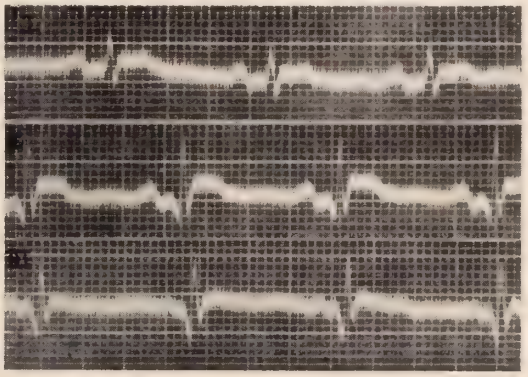


Fig. 12 (Case 2). October 16, 1924.

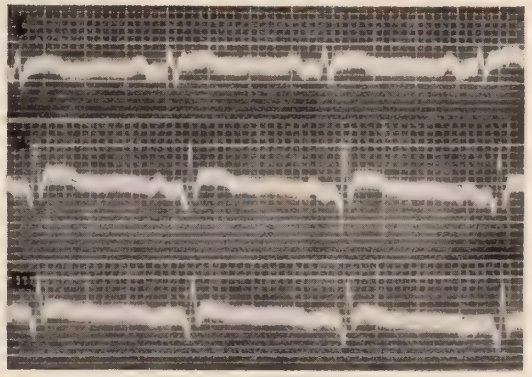


Fig. 13 (Case 2). October 17, 1924.

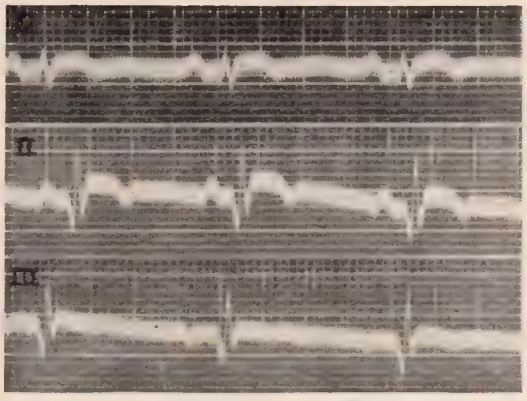


Fig. 14 (Case 2). October 18, 1924.

The patient was a small man, appearing older than his years; his facies were those of extreme suffering; he had a pasty pallor. The cardiac dullness extended 3 cm. to the right and 9 cm. to the left of the midsternal line. A respiratory arhythmia was present, but the tones were clear and the rate 75 each minute. There was a moderate degree of peripheral arteriosclerosis. The systolic blood pressure was 130, and the diastolic 90.

The pain lasted seven and one-half hours, and was not relieved by four subcutaneous injections of morphin. A diagnosis of coronary thrombosis was made. Roentgenologic studies of the chest made the same day revealed a normal cardia. The leukocyte count was 6,800, and the blood-Wassermann reaction was negative. A faint trace of albumin was found in the urine. The maximal temperature that day was 100° F.

Treatment consisted of complete rest in bed, and a restricted, low-protein diet. No medication was given after the first day, when nitroglycerin and morphin were administered.

Course.—There were no changes in the objective findings the second day. There had been no repetition of pain, but the patient was extremely anxious and apprehensive. The development of a pericardial rub, which was expected to appear as the result of a localized pericarditis over the infarcted area, was carefully sought for, but was not detectable during the whole period of observation. On the second day the leukocyte count had risen to 12,000. The maximal temperature for this day was 101° F. On the third day the physical findings were unaltered, and the patient was comfortable. The maximal temperature for the day was 99.6° F., and the leukocyte count was 13,900. On the fourth day no change was noted in the physical findings, except that the heart rate was constantly over 90. The temperature was normal. The heart gradually dilated so that at the time of the patient's dismissal on the thirty-second day after the attack, the cardiac dullness extended 4 cm. to the right and 12 cm. to the left of the midsternal line. The tones were rapid and muffled, but no murmurs were audible. Very slight effort, such as rising from a chair, caused dyspnea; therefore, the patient's activities were rigidly restricted, and he was advised to continue the restrictions indefinitely. Intermittent digitalization was suggested to his home physician.

Electrocardiogram.—The first electrocardiogram taken during the attack (Fig. 1) revealed practically a normal tracing. A slight sinus arhythmia was present, and the amplitude of the T wave in Lead II is slightly greater than is usually seen. Figure 2 is the electrocardiogram taken on the morning of the second day, and reveals alternating premature contractions. On the third day, however, a marked change in the electrocardiogram occurred (Fig. 3). The abnormality is evidently due to a bundle branch block. The T wave in Lead I, which had been positive, became negative. On the following morning (Fig. 4), the graph was again entirely altered, the T wave in Lead I being upright, while those in Leads II and III were distinctly negative, and the changes in the complexes indicated that the bundle branch block was absent. The QRS deflections in Lead I were very low. There were no changes in the electrocardiograms on the three succeeding days, but on the eighth day the T wave again became negative in Lead I, and positive in Leads II and III (Fig. 5). There were also smaller deflections of all the complexes, particularly in Leads I and II. No special changes occurred during the three following days, but on the twelfth day (Fig. 6), the amplitude of the negative T wave in Lead I was increased, and the degree of left preponderance was more evident. Figure 7, taken on the eighteenth day, shows essentially the same findings as in the preceding tracing, except that the amplitude of the negative T wave in Lead I is greater. Figure 8 was taken on the twenty-fifth day, and on the thirty-second day numerous premature contractions were present, as shown in Figure 9. Practically daily electrocardiograms were taken, but it is practicable to publish only those showing important transitions.

CASE II

A man, aged forty-eight years, was admitted to the hospital because of intense retrosternal pain radiating into the left upper arm. The attack had begun twenty-four hours prior to admission, and had not been relieved by the repeated subcutaneous injections of morphin, nor by the administration of nitroglycerin. During the preceding few months the patient had experienced a few mild attacks of angina pectoris, but had not considered them serious enough to require medical advice.

Examination revealed a robust, well-nourished man, presenting the facies of intense suffering. The cardiac area was not increased, the dullness extending 3.5 cm. to the right and 10.0 cm. to the left of the midsternal line. The heart tones were barely audible, but the rhythm was regular and no murmurs were audible. The heart rate was 78; the blood pressure was 110 systolic and 70 diastolic. The physical examination revealed no other important findings. Repeated urinalyses were negative except for a faint trace of albumin. The leukocyte count on the day of admission was 12,300 and on the third day was 14,000, while on the tenth day, it was 7,000. The blood Wassermann reaction was negative, and x-ray studies of the chest were negative. The temperature on the day of admission was 99.2° F., and the highest recorded reading was 100.2° F., which was on the third day. A diagnosis of coronary thrombosis was made. The attack lasted ninety-six hours. The only medication given was morphin and nitroglycerin, which afforded only partial and temporary relief.

Course.—During the remaining fifteen days of observation the patient remained comfortable, except for paresthetic areas over the precordium and the upper left arm. There was no change in the area of cardiac dullness, but the heart tones improved in character. No precordial friction rub was audible at any time.

Electrocardiograms.—The first electrocardiogram taken shortly after admission and twenty-four hours after the onset of the attack is shown in Figure 10. No gross abnormality was present, except that the T wave in Lead II had again an amplitude greater than is usually observed. On the second day (Fig. 11) the T waves in all leads became less distinct and were rather ill-defined in both Leads I and II. On the third day (Fig. 12) the indistinct character of the T wave was more evident, being practically iso-electric in Lead III. On the fourth day the T waves in Leads II and III were found to be approaching the diphasic state, although this is not clear cut (Fig. 13). On the fifth day the T waves in all leads are distinctly negative, having a much greater amplitude in Leads I and II (Fig. 14). On the seventh day (Fig. 15) the T waves are frankly negative in all leads with a marked amplitude, particularly in Lead II. The electrocardiogram taken on the tenth day is shown in Figure 16, and resembles closely the preceding figure. Figure 17, taken on the fifteenth day, was the last electrocardiogram recorded.

SUMMARY

Two cases of acute coronary obstruction are reported in which recovery occurred, and in which detailed electrocardiographic study was carried on from the time of the occlusion throughout the period of convalescence.

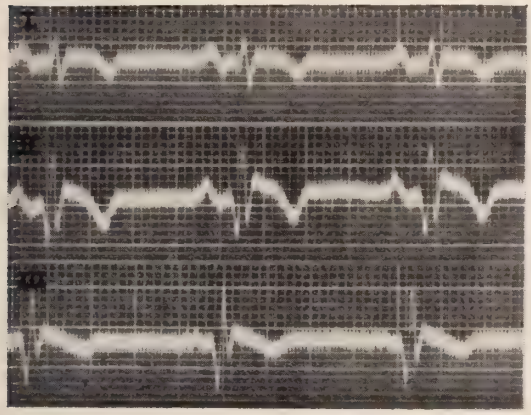


Fig. 15 (Case 2). October 20, 1924.

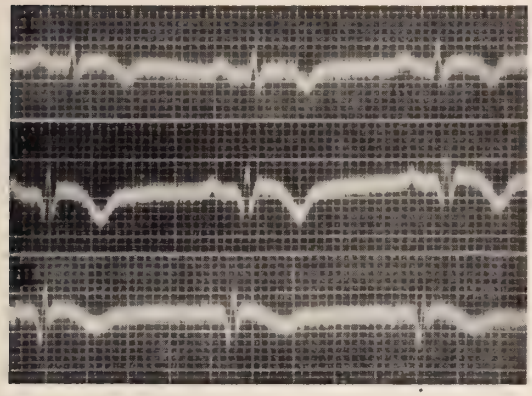


Fig. 16 (Case 2). October 23, 1924.

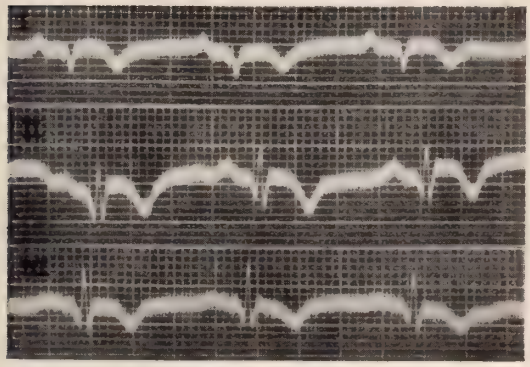


Fig. 17 (Case 2). October 29, 1924.

Syphilis is a problem of public health rather than a matter of morals. It is much more controllable than tuberculosis.—*Porto Rico Health Review.*

MENTAL CLINICS*†

WILLIAM C. SANDY, M.D.

HARRISBURG, PA.

The establishment of outpatient facilities for mental patients marked the transition from the old to the more modern viewpoint as to mental hospitals, mental patients, and their treatment.

Formerly, institutions for mental patients were in fact "asylums for the insane," refuges, places set apart for the segregation of these unfortunates for their own protection and that of the general public. Both patients and physicians in these asylums had little contact with the outside world. They lived virtually in walled cities. The institutions were regarded with suspicion because little was known as to the interior activities. The patients, so-called "lunatics," were more apt to inspire dread than sympathy in the mind of the average person, due to the survival of old superstitions and fears. The idea that "once insane, always insane" was widely prevalent. Residuals of this false belief, due to ignorance and superstition, make their appearance even now from time to time in the otherwise unexplainable attitude of the public towards various phases of mental disorder.

For some years, there has been an increasing appreciation of a more rational and more hopeful point of view as to mental disorder. This is largely the result of higher standards of treatment and care of such patients effected by the development of the institutions into hospitals, curative centers for the communities they serve. More complete knowledge of the causal factors of mental disorders has brought about a realization of the possibility and the importance of restoration and prevention.

As a further logical development, the mental hospitals have become centers for mental health through extramural activities. The establishment of social-service departments means closer contacts between the patient within the hospital and his friends and relatives in the community, a channel of assistance for the ex-patient, and a means of preparing the way for the return home of the convalescent patient. Psychiatrists from the mental hospitals are answering the increasing number of calls for information as to mental hygiene by talks before normal schools and colleges, parent-teacher associations, luncheon clubs, and the like, thus reaching an ever-widening field of education and prevention. But there has been no one more important prophylactic development than the establishment of mental clinics.

*Read at a meeting of the Pennsylvania State Association of Probation and Parole, at Williamsport, Pa., April 14, 1925.

†From the Bureau of Mental Health, Pennsylvania Department of Welfare.

The limits of this discussion will not permit an extended consideration of mental disorders and defect. In order to appreciate fully the objects and possibilities of mental clinics, however, some of the basic facts of these conditions will be recalled.

That there are about as many beds in hospitals for mental patients in the United States as for all other kinds of illness put together is a startling enough indication of the prevalence of mental disorder. One need only add to this the statement of the National Committee for Mental Hygiene that "in some states one in twenty of those who reach adult age dies in a mental hospital" to arouse the concern of all thinking persons. Probably the taxpayer has most cause to realize the prevalence of mental disorder by the increasing cost of institutionalization, not only of patients in mental hospitals but also in correctional institutions and homes for dependents, for mental disorder is a definite factor in dependency and in delinquency, especially recidivism.

On the other hand, optimism as to mental disorder should be fostered by recognizing the recoverability of mental patients. In modern hospitals at least twenty-five per cent of new admissions fully recover, and about as many more are sufficiently restored to return to their homes. The already-mentioned possibility of prevention should also counteract any tendency towards undue alarm.

In many respects, mental defect (so-called feeblemindedness) should cause even more anxiety than mental disease. It is much more prevalent, proper facilities for training, supervision, and custodial care are less available, and there is no cure, the condition being one of fundamental brain lack. Mental defect is likewise associated with delinquency and dependency, helping to make up the increasing classes for which institutionalization must be provided at greater and greater cost to the taxpayer.

Here, too, one may be optimistic if proper measures can be brought about to meet the problem of mental deficiency. Many of the complications of mental defect, such as the varying degrees of delinquency, can be prevented, and the individual trained in useful ways, protected, and in many instances safely retained in the community under supervision.

In view of the prevalence and increasing cost of mental disorder and defect, every effort should be made to establish vigorous measures for prevention. Essential features of such activities are: *early identification,* for, as in other medical conditions, the sooner the patient is seen, the greater the chances for recovery; *correction of remediable physical defects,* for these are often causal factors in the mental condition of the patient; *treatment and training;* and further-continued *supervision,* the follow-up activities being as necessary as early identification, particularly in the case of mental deficiency.

Outpatient clinics fulfill to a considerable degree the needed facilities for prevention. The field of the mental clinic is ever-widening, as illustrated by the manifold uses made of it. In the beginning, clinics were largely devoted to the interviewing of paroled mental patients, furnishing a place for them to report periodically until fully discharged. They have gradually broadened in scope so as to include many other activities more clearly prophylactic in character. The clinics are consultation opportunities for relatives or friends of persons having difficulties thought to be due to mental disorder or defect; for the schools, in regard to children retarded in work or manifesting unusual or troublesome behavior; for the courts, in regard to possible mental disorder or defect in persons in custody; for the general instruction of patients, their friends or relatives, in regard to treatment, correction of environmental difficulties, and assistance in bringing about rehabilitation or proper community supervision.

Mental clinics, both as constituted and as conducted, prove to be effective agencies for prevention. Clinics are held where persons are accustomed to coming for advice, such as hospitals, Red Cross rooms, and the like. Under such circumstances, no one need hesitate to consult about his own personal problems or those of friends or relatives.

The clinics are provided with competent expert personnel, consisting of psychiatrists, specialists in nervous and mental disease from the staffs of the mental hospitals and institutions for mental defectives; psychologists, experienced in theoretical and practical mental processes and in psychometric measurement; and social workers accustomed to dealing with problems of human relationship and environment.

Reports are made, in regard to all new clinic patients, to the central office on cards constituting a continued census of mental patients, especially valuable in respect to the feebleminded.

Recommendations are made as to remediable conditions and referred to those interested in the patient for following them out. Practically, this results in medical and surgical defects being brought to the attention of the family physician or the medical official responsible, and in the other needs reaching the notice of agencies equipped for and used to meeting such problems.

Where institutionalization is required, the rel-

ative urgency is determined and the admission of the most urgent cases expedited. Admission to an institution is restricted to cases absolutely needing such disposition, and in no sense of the word are clinics to be considered receiving stations for the institutions.

The number of mental clinics in Pennsylvania has increased from seven in 1921 to thirty-nine in 1925. As already stated, the consultant psychiatrists are usually obtained from the nearest institution for mental patients. The psychologists are mostly furnished by the Bureau of Mental Health, there being at present three on the staff.

There is still a large area of the State in the northwest central portion, not yet reached by clinic service. In order to cover this field and to supplement the regular clinics, it is planned to have a traveling clinic from the Bureau of Mental Health, provided sufficient funds are made available. Ultimately, it is hoped that regular dependable mental-clinic service may be made accessible at least in every county.

In the course of time, and as competent personnel (now scarce) becomes more numerous, undoubtedly there will be subdivisions of the present clinics or the establishment of subvarieties. After the primary classification of the patients has been made, then there must be recognized several distinct fields which may eventually necessitate clinics of more specialized types; e. g., for child guidance (advisory for the more or less normal child), for mental diseases (acute, borderline, and paroled mental patients), for the mental defect (so-called feebleminded), for delinquency (for specific consideration of court cases). At present, however, there seems to be a genuine need for a classification center for all types of cases, and existing conditions (limited personnel and so on) necessitate the use of these general mental clinics also for diagnostic, advisory, and treatment purposes.

Clinics do not eliminate local responsibility in the various cases. In fact, for a time, clinics may even appear to increase the burdens of local workers by pointing out the way in certain cases. Ultimately, however, the value of clinics should be demonstrated in closed cases and more or less solved difficulties. On account of the large field to be covered and the limited time and personnel, local workers should be especially concerned with the preclinic collection and preparation of data, such as family, personal, and school histories, physical examination, and so on; the bringing of patients to the clinic with the proper data; the transmitting of recommendations to the proper person; and the postclinic follow-up and continued supervision. Patients may need the more-or-less-prolonged services of the family physician, the attention of the district nurse or social worker, or the occasional advice and help of some local organization in order that difficulties may be successfully overcome.

So far as probation and parole officers are concerned, mental clinics present the opportunity for real assistance in everyday problems. No court or agency dealing with the various phases of delinquency, especially among children, can ably handle these situations unless physical and mental conditions are given due consideration. For instance, certain kinds of abnormal, difficult, and even dangerous behavior resembling what is commonly termed "juvenile delinquency" may be simply manifestations of the end results of encephalitis which may never have been recognized during its mild progress. Cases of complete transformation of character, of formerly obedient, likable, and studious children being turned into irritable, thieving, sexually promiscuous, or even homicidal individuals following sleeping sickness, are being more frequently recognized. These children obviously need complete physical and mental surveys, and medical attention rather than sentences to correctional institutions. Such conditions are not apt to be detected unless clinic facilities are utilized. Children may be involved in difficulties also due perhaps to defects of sight and hearing, some inherited or acquired nervous or mental disease, mental defect, bad habits, bad management on the part of parents, poor environmental conditions, and so on. Mental clinics are peculiarly well adapted for ascertaining and correcting such situations.

Mere discovery of mental defect (feeblemindedness), moreover, is not the goal. The child may appear to a layman to be defective, while in reality he may be suffering from some condition which may be cured or relieved. Even if the child, after careful examination, proves to be feebleminded, that is only the beginning. This does not at all necessarily mean institutional commitment. There should be determined the degree of intelligence, behavior tendencies, temperamental qualities, special aptitudes, and so on, before a proper decision may be reached. Community life may be advisable and possible under certain conditions. The mental clinic stands ready to advise in such matters.

Placement of children in homes or families requires similar consideration. Will the child's mentality and temperament permit his adjustment to the proposed environment (which may be a farm or what not)? In any case, shunting a child (or adult) off to one side without some sort of study is not apt to be very beneficial

except by accident. How much better it would be to avoid much lost motion and chance by taking advantage of the knowledge and experience of the clinic consultants!

In short, mental clinics represent an organized effort to stem the tide of increasing institutionalization by anticipating and counteracting so far as possible both the tendencies towards mental disorder and the development of difficult complications of mental defect. It is hoped that these facilities, which are expected to become more and more numerous, will be utilized to a further extent by such agencies as are represented at this meeting.

NEWER METHODS OF DETERMINING THE EMPLOYER'S LIABILITY IN EYE INJURIES*

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The title of these remarks really should be "The Newer Attitude Toward and the Newer Methods of Determining the Employer's Liability in Injuries of the Eye." To this audience, it is hardly necessary to refer to the importance of eye injuries, for all are aware that, from the standpoint of the employer, at least, the eye hazard is "the most serious and the most costly of all nonfatal industrial accident hazards."[1] A few figures will confirm this statement. In Pennsylvania, during the eight years that the Workmen's Compensation Act has been in force, more than 40 per cent of all the compensation awarded for permanent injuries was awarded for loss of eyes. The compensation paid for loss of eyes during this period amounted to $6,201,763, and was greater than the combined compensation for loss of legs, arms, feet, and permanent disability from miscellaneous injuries.

Eyesight is a priceless possession, and its loss or impairment by injury will always rightfully demand a high rate of recompense from industry because of its economic importance to the earning capacity of the workman. No one would have it otherwise. But the great teacher, experience, is having its effect upon the administration of workmen's compensation laws. The rule of reason, based upon trustworthy information, rightfully interpreted and correlated with all the facts, is superseding technicalities, to the end that more perfect justice, both to employer and employee, will prevail to an ever-increasing degree in the future.

Reform, like charity, should begin at home. The first step, therefore, should be the adoption of a means of overcoming one of the big obstacles that frequently stands in the way of just and intelligent adjustment of claims for loss of vision. This obstacle or handicap is the misunderstanding that has always existed with regard to the interpretation of the ophthalmologist's method of recording visual acuity by persons not sufficiently trained in visual optics to know the principles upon which the Snellen and other universally accepted test types are based. As a language for the ophthalmologist or industrial surgeon, the designation of visual acuity by the symbols "20/20, 20/30," etc., is satisfactory and permissible in strictly professional company; but for others who may have neither the time nor the inclination (and in many cases, no doubt, not the ability) to follow offhand a long process of scientific deduction, expressions to indicate degrees of vision should be used which are not, even apparently, a contradiction of the A B C's of mathematical interpretation to which they have been accustomed since childhood.

Habit is second nature in mental as well as in physical operations. Standard conventional practices of reasoning are often as deeply rooted in a man's nature as the idioms of his language. Every one is always only too prone to follow the line of least resistance and to jump at conclusions in any given matter which fit in with or perhaps even fall to the level of his own intellectual working capital and the mental tools which he can handle without effort. Indeed, the profound psychologists hold that men are all bound and hemmed in by what they call "apperceptions," or "instincts of the herd," or the ideas and beliefs peculiar to the type to such an extent that no one can entirely throw them off when it comes to attacking any new problem.

Let us apply this knowledge to the problem of expressing visual acuity to the average lay mind. A man has 20/40 vision, the ophthalmologist sets forth in his opinion. All right, agrees the layman, but without waiting for any further explanation of language apparently so simple, many instinctively and automatically proceed to reduce that "fraction" to its lowest terms: 20/40 vision —20/40 means ½, of course; the man has one-half vision. Any other interpretation would appear far-fetched, or perhaps would look like an effort on the part of a biased witness to put something across. While nothing could be more absurd to one who has the special knowledge necessary to a full understanding of the matter, experience with untrained minds, in handling the problem, induces the belief that such flagrant miscarriage of truth will go on unabated so long as

*Address of Eye Surgeon at Physicians' Conference of American Steel and Wire Company, Pittsburgh, Pa.

visual acuity is expressed to the laity by a formula that looks to them like a common fraction. The fault lies primarily with the ophthalmological branch of the medical profession, but all industrial surgeons and all employers, as well, should take the lead in spreading whatever propaganda may be necessary to correct this widespread misapprehension, especially since there is now available an expression of visual acuity in terms of percentages which does not run counter to everyday mathematical concepts. The Chapman table of percentage expression of visual acuity, given below, is both mathematically sound and intelligible, and, in its essential features at least, is the most satisfactory yet brought forth.

CHAPMAN'S PERCENTAGE VISION TABLE[2]

20/20	indicates	100%	vision	and	no	loss	of	vision
20/30	"	95%	"	"	5%	"	"	"
20/40	"	90%	"	"	10%	"	"	"
20/50	"	85%	"	"	15%	"	"	"
20/60	"	80%	"	"	20%	"	"	"
20/70	"	75%	"	"	25%	"	"	"
20/80	"	70%	"	"	30%	"	"	"
20/90	"	65%	"	"	35%	"	"	"
20/100	"	60%	"	"	40%	"	"	"
20/110	"	55%	"	"	45%	"	"	"
20/120	"	50%	"	"	50%	"	"	"
20/130	"	45%	"	"	55%	"	"	"
20/140	"	40%	"	"	60%	"	"	"
20/150	"	35%	"	"	65%	"	"	"
20/160	"	30%	"	"	70%	"	"	"
20/170	"	25%	"	"	75%	"	"	"
20/180	"	20%	"	"	80%	"	"	"
20/190	"	15%	"	"	85%	"	"	"
20/200	"	10%	"	"	90%	"	"	"
20/210	"	5%	"	"	95%	"	"	"
20/220	"	0%	"	"	100%	"	"	"

As heretofore, each claim will have to be settled upon its own individual merits. No rule of thumb method will apply to all cases. Other considerations besides visual acuity, such as the field of vision, binocular coördination, disfigurement, the occupation and habits of the individual, etc., will weigh heavily in the balance in many cases, but a tremendous stride forward will be made when there is universal agreement upon and adoption of a measuring stick for visual acuity which will be easily within the understanding and reasoning power of the humblest intellect that may be called upon to pass judgment in the matter of claims for loss of vision.

As indicating an entire change of attitude in a matter that vitally affects the employer's liability in eye injuries, the reasoning expressed by Justice Keller, of the Superior Court of Pennsylvania, is quoted below. This decision holds that an injured eye in which, after removal of a cataract, normal vision may be secured with a glass, is not lost from an industrial standpoint.

In the case of Massitt vs. Armerford Coal Mining Co., a miner was injured in the left eye with a stone. A traumatic cataract developed as a result of the injury. This was later removed and vision obtained in the eye, with the aid of a correcting lens, of 96% normal. As the man could not use his glasses for binocular vision, the Referee awarded him total loss of the eye for industrial purposes, and a Common Pleas Court affirmed the award. The Superior Court reversed this action in an opinion handed down by Justice Keller, who held as follows:

"The claimant's left eye is not destroyed. The lens, which focuses the light on the retina, is destroyed, but the retina is not, and with a correcting lens practically normal vision is obtained. Unfortunately, the claimant cannot obtain this vision while using the uninjured eye, for the two eyes will not coördinate and do not present the same picture to the brain. But the eye is not destroyed; it is rather in reserve. That it is a serious injury, and that it detracts from the value of the eye, there can be no doubt, but the eye is not lost. For if claimant should lose his right eye, he would be able, using the injured eye, aided by a lens, to fully perform his duties. Under the theory adopted by the Referee and the Board, it would be possible for this claimant to be twice awarded full compensation for the loss of each of his eyes, a condition which cannot have been intended; for his other eye could be injured just as this one was, and the vision be corrected by a lens, and then both eyes could be absolutely destroyed by accidents. This is, of course, not likely, but it is a possibility, and no one would object more vigorously than this claimant if following a similar injury to his right eye and his possession of normal vision in both eyes, if used separately, it should be held that he could not be compensated for future injury to either because both had been judicially determined to have been lost."

Since the above decision was rendered, the Workmen's Compensation Board, in the case of Wontrova vs. Philadelphia and Reading Coal and Iron Co., has ruled that a man who, following removal of traumatic cataract, had 20/40 vision with a glass, had not lost the use of the eye from an industrial standpoint.[3]

One of the latest achievements in ophthalmology, microscopic examination of the living eye, is a method which will soon play a very important part in determining the employer's liability in eye injuries. By means of the perfected binocular microscope and illumination with the so-called slit-lamp, which furnishes an intense beam of light to penetrate to the deeper structures of the eyeball, stereoscopic or tridimensional vision is obtained, which not only magnifies lesions for more accurate diagnosis than has heretofore been possible by other instruments of precision that can be used on the living organ, but which will settle the precise depth and localization of these lesions with absolute certainty. This information will be of inestimable value in all injury cases. An examination of the cornea, for ex-

ample, will ascertain that a wound has or has not penetrated it, and it can be proved with certainty in many cases that so-called traumatic cataracts may have no connection with injury at all.

The best possible protection that an employer can give, both to himself and to his employee, is a careful examination of the eyes of his employees and a careful record of their visual acuity at the time of employment. Just as it has been found that it is cheaper to prevent accidents than to pay for them, so, when it is fully realized to what extent poor eyes not only interfere with efficiency, but also to what extent they increase the frequency and severity of industrial accidents, to say nothing of the possibility of unjust claims in compensation cases, the employer will find it a paying investment to be sure of the condition of the eyes of each and every one of his employees at all times, by whatever means, and at whatever expense may be necessary to determine it.

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ORAL SURGICAL PROSTHESIS*†

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DANVILLE, PA.

The history of the healing art is replete with many devices for the replacement of lost masticatory units. From the primitive method of tying animal teeth to the remaining teeth, to the highly technical art and science of manufacturing a modern artificial substitute for the natural denture, is a far cry. In the main, however, replacement of teeth has been performed in response to the same instinctive demand on the part of mankind for the preservation of facial harmony as prompted the lashing of calves' teeth in the mouths of bygone generations.

Until recently, then, the chief reasons prompting the placing of artificial teeth have been to restore as nearly as possible the appearance and to provide for mastication. Scientific enlightenment has of late times awakened a very keen interest in another phase of the subject—that of pathology of the teeth and their investing tissues.

The conclusion forced upon those members of the health service that have given the subject sufficient study is that it often becomes necessary to eliminate teeth that would satisfactorily supply the first two demands, appearances and mastication, but are a menace to the welfare of the individual so far as the last-named, or pathological, factor is concerned. There are, therefore, three chief reasons for the supplying of oral prosthetics —esthetic, functional, and pathologic.

The purpose of this paper is to elucidate a method which has been very successful as developed by our service, being so much appreciated by the patients, as well as by ourselves, that we feel that all who are interested in this branch of the health service should be acquainted with its possibilities.

It savors somewhat of the spectacular to have a patient brought to the operating room with a mouth full of infected teeth, have them removed, and a duplicate armamentarium of the lost dental organs immediately put in the mouth without the lapse of minutes from the time the last bit of surgery has been completed until the new denture is placed. The operation is done without any appreciable change in appearance. This procedure has not been devised for any spectacular purpose, but because it more fully meets the highest requirements of surgery, i. e., the elimination of pathology and preservation of function.

There are other methods of quickly placing dentures such as having one made hurriedly following a surgical removal, or cutting of the plaster teeth and making a temporary plate without any attempt to discount shrinkage or provide for the preservation of anatomical form and relation. The objection to these methods is self-evident.

Oral surgical prosthesis is submitted as a means of meeting more fully the ideals demanded by esthesis, preservation of function, and elimination of morbidity from the investing and adjacent tissues of the teeth. The first two requirements are partially accomplished by the ordinary technical means involved in the mechanical procedure peculiar to dental prosthesis. To accomplish the first two, as well as the latter, a certain special technic is required, which will be briefly described.

The procedure, aside from the usual process involved in the manufacture of dental prosthetic appliances, includes the preparation of the cast. This is done by carving a model of the mouth with the teeth in place, so that the completed model will represent the mouth as it is desired to be after complete healing of the parts involved has taken place.

Briefly described, the detailed technic is as follows: So carve the model that a section two thirds the width of the tooth root will be re-

*From the Department of Oral Surgery of the George F. Geisinger Memorial Hospital.
†Delivered before the Montour County Medical Society, Danville, Pa.

moved from the outer surface of the cast, beginning at the gingival margin and diminishing to zero at the apical third of the tooth. It will thus be seen that a triangular piece is removed two thirds the length and two thirds the width of the tooth root involved.

The surgery is based upon the principle of surgical removal, which involves the reflecting of the periosteum and mucosa, removal of two thirds of the labial or buccal alveolus as measured by the root length, trimming the dental interspace so that it will taper from a point where the apical third of the root begins and ending at a point determined by two thirds the width of the tooth at the cervix plus the thickness of the outer mucosa and alveolus, taking out of the teeth, thorough removal of such pathology as lends itself to surgery and due provision for the care of the persistent infection, proper suturing of the flap, and placing of the denture.

The whole process rests upon the osteoblastic, or ingrowing, faculty of bone. The periosteum is preserved and the osteogenetic faculty of bone itself is stimulated through the functional stress to which the tissues are subject. The common phenomenon of resorption of the investing tissues of disused teeth speaks all too plainly for the value of functional stimulation. The operation involves removal of all osseous structure that would normally absorb in an edentulous mouth, providing the mouth was subject to functional stress soon after the teeth were removed. The denture provides a mold into which the ingrowing tissue adapts itself.

The functional advantages derived from surgical prosthesis are mainly masticatory, phonatory, and supportive. Normal alignment of the teeth is made possible. The time of no or imperfect mastication is much shortened. Not to alter the comparative form of the mouth reduces to a minimum the damage to phonation. The support is very much better as compared with the older methods, for the alveolar ridge will be from one to five times larger unless the patient is advanced in years or, for some other cause, the osteogenic activity is inhibited.

Surgical prosthesis takes cognizance of the value of maintenance rather than attempted restoration, and thus more fully meets the esthetic requirements; for it is next to impossible, however clever a prosthesist may be, to place an appliance that will exactly reproduce contours and alignments once they are destroyed. The method described lends itself to the preservation of such facial and oral relations as the patient previously presented, and at the same time allows for the correction of such outstanding disharmonies as each patient may possess. The discrepancy that sometimes exists in adaptation after a due lapse of time, say twelve months, can be readily corrected by a simple technical process.

Proper pre- and postoperative care of the patient is the foundation upon which success rests.

To reëmphasize: Oral surgical prosthesis, or immediate replacement of teeth, is the endeavor to attain by mechanical and surgical therapy the highest ideal in oral surgery, which is the elimination of pathology, preservation of function, and the normal alignment of parts. This operation is a near approach to the maintenance of the normal relation of the organs and tissues which go to make up the limits and boundaries of the oral cavity, thus greatly lessening the evils of that day when the "grinders shall cease because they are few."

SUPPURATIVE ORCHITIS AND EMBRYONAL ADENOCARCINOMA*†

CASE REPORT

WILBUR H. HAINES, B.S., M.D. AND NOLIE MUMEY, M.D.

PHILADELPHIA, PA.

HISTORY

A. Y. W., aged twenty-four, married, city fireman, was referred with a diagnosis of hydrocele, on March 5, 1923, the chief complaint being a swollen left testicle of five days' duration.

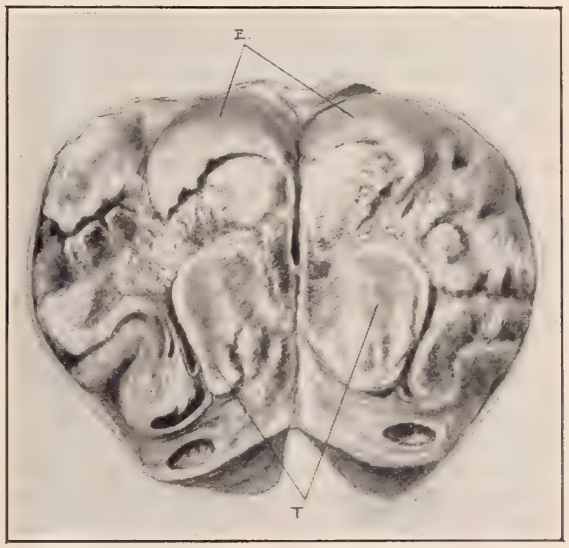


Fig. 1. Suppurative Orchitis and Adenocarcinoma.

His past history was unimportant and he denied having had any venereal infection, although he had had an attack of influenza accompanied by tonsillitis two weeks

*From the Graduate School of Medicine, University of Pennsylvania.
†Read before the Philadelphia Urological Society.



FIG. 2.—Low-power view, showing a large number of blood vessels, increased amount of fibrous tissue, and polyhedral cells throughout the substance.

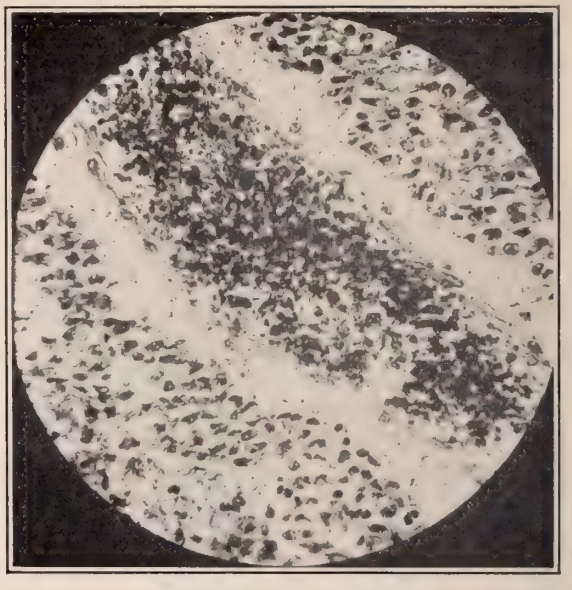


FIG. 3.—High-power view, showing large blood vessel in the center, with spindle and round cells on each side.

previous to the onset of his present trouble. The sense of weight and fullness, and somewhat painful condition of the testicle caused him to seek the advice of his attending physician, who recommended immediate care.

EXAMINATION

On examination, the scrotum on the left side was found to be evenly swollen and approximately 16x12x8 cm. in size. The epididymis was not palpable. The swollen area was slightly tender to touch, and did not transmit light. A diagnosis of infectious epididymo-orchitis was made, and a suspensory and ointments were applied. Seven days later the patient's condition was unimproved, except that there was less tenderness on pressure. Potassium iodid administered by mouth, with applications of magnesium sulphate and rest in bed, did not influence his condition.

On March 19th, two weeks from the first examination, the patient was admitted to the urological service of the St. Agnes Hospital. On the following day a longitudinal incision in the left scrotum revealed a large, smooth, vascular mass, which did not contain fluid, but involved the testicle and epididymis in what apparently was a malignant growth. The entire tumor-like structure and cord was removed.

PATHOLOGY

On the cut section there were many yellowish areas, with purulent material, which involved the parenchyma and interstitial substance of the testicle and epididymis, partially obscuring all the normal structure.

Microscopic examination of sections taken from four different parts of the tumor showed under the low-power microscope a large amount of fibro-connective tissue formation with many cells. Substances resembling cartilage and muscle were present in many of the spaces of the cellular structure. A large amount of hemorrhage, with epithelial and spindle-shaped cells, formed the basis for a diagnosis of an embryonal adenocarcinoma. Other sections contained a large amount of necrotic material, with débris and round-cell infiltration and multiple abscess which suggested the suppurative condition.

SUMMARY

A résumé of this case would suggest that the condition began after an infectious orchitis, following influenza. Its rapid onset and insidious character, accompanied by the suppurative process, made the diagnosis a difficult task, which after all did not interfere with the speedy removal of a very malignant tumor three and one-half weeks from the time of discovery. The patient is in good health, and there has been no recurrence eighteen months after operation.

DIAGNOSIS AND TREATMENT OF TUMORS OF THE SPINAL CORD

The occurrence of tumors of the spinal cord is much more frequent than is generally believed. It is the task of the neurologist and the neurologic surgeons to recognize these lesions before complete paralysis has taken place, and to afford the patient the benefit of an exploration and removal of the growth before the disease has progressed to the extent of making of him a permanent invalid.—*Northwest Med.*, July, 1925.

Young children are the most frequent victims of accidental poisoning. The Industrial Department of one of the life-insurance companies states that in 1924 there were recorded 70 deaths in children one to four years of age insured, with the known cause in 57 given as follows: Strychnin, 24; lye and other alkalies, 6; fireworks, 6; exterminators, largely arsenic, 5; kerosine and gasoline, 3. In regard to the strychnin poisoning, this drug was ingested in most instances by swallowing cathartic pills containing the drug, which pills had been allowed to remain in easy reach of the children. Next in order of frequency was strychnin in tonics. The recommendation is that parents should be warned in regard to the danger of pills and liquids containing strychnin, and a warning label placed on the same.

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EDITORIALS

NEW DEPARTMENTS IN THE JOURNAL

There is a growing interest in public health, hospitals, and industrial medicine to such an extent that the medical profession is keenly awakened to the rôle being played by preventive medicine, the various activities incident to hospital work, and the increasing endeavors incident to industry. The efficacy of public-health methods depends absolutely upon the full cooperation of the medical profession; the greater demands for hospital care require that physicians must be in touch with hospital administration and activities, and there should be a general knowledge on the part of the profession in regard to the various medical aspects of the industrial field.

In order, therefore, to increase the value of the Atlantic Medical Journal to its readers, beginning with the October issue there will be monthly contributions to these three departments. We are very fortunate in securing three of our members who will give full coöperation to their respective departments. Dr. Clarence R. Phillips, of Harrisburg, who has had a large experience in the State Department of Health, will assume charge of the department relating to Public Health; Dr. Joseph C. Doane, Medical Director of the Philadelphia General Hospital, will assume charge of the department of Hospital Activities; and Dr. Henry Field Smyth, Chairman of the Section on Industrial Hygiene of the American Public Health Association, will assume charge of the department of Industrial Medicine.

THE IMPORTANCE OF "THINKING BACKWARD AND LIVING FORWARD"

It is generally understood and, as a rule, freely acknowledged that the essential difference between a profession and a business is that the profession has for its main object the service it can render humanity, while the main object of business is and must be, in the nature of things, resulting profit. When a business is so conducted that the first aim and thought of its stockholders is the service that it can render its patrons, then that business approaches a profession; while, on the other hand, those members of the medical profession who enter and remain members of the Æsculapian guild solely for the financial gain obtained are not, and never can be, true physicians at heart.

Two other distinguishing features of a profession are the hallowed and inspiring traditions inherited and the resulting code of ethics. The medical profession of Pennsylvania may well be proud of the noble traditions that have descended to us from our forebears in the profession, beginning with John Goodson, "Chirurgeon to the Society of Free Traders," who was probably the first practicing physician in our State, and Griffith Owen, a Welshman and a learned and wise physician who came on the "Welcome" with William Penn.

History is the account of man's achievements; and medical history, especially that pertaining to the lives and activities of the physicians of our own Commonwealth, should be investigated, read, and studied with interest by all who love their profession.

The State Medical Society is slowly but surely adding to its archives. It needs help from all its interested members. Recently, praise-worthy histories of the Philadelphia, Fayette, and Lycoming County Medical Societies have been published through the self-sacrificing efforts (and not a little expense) of a select few.

We cannot be thankful enough that there are those in our profession who sacrifice their own leisure, their time, and their money that, very gradually, a history of the State Medical Society may be evolved. It has been well said that the past has made the present in medicine, and we, who are alive, have the future in our keeping.

Is it not wise to remember that if we do not start at once to gather the historical material for the Centennial of the State Society much of the material now available will escape us?

Will the medical student of the future fail to have higher ideals if he has the opportunity of becoming intimately acquainted with the lives of such inspiring figures in medicine as the late Roland G. Curtin, W. Joseph Hearn, William M. Welch, and M. Howard Fussell?

We have many men with us to-day whom we cannot expect to retain for the Centennial of the Society. Cannot some plan be evolved so that we can, in the archives, transmit something of the vivid and striking personalities of our medical and surgical leaders of to-day?

We are making medical history each day. Let us see to it that the Committee on Archives receives the active coöperation of each one of us. The Centennial of the Society is likely to find us unprepared if we do not begin at once to gather our materials.

THE DENTAL INTERN

Many hospitals are appreciating the value of the services of a dental intern, and are showing wisdom in making an annual appointment. The physician must realize that dentistry is a specialty of medicine. The medical profession is not keenly awake to the advantage of cooperation with the dentist. The moment dentistry is mentioned the average physician visualizes mechanical technic, whereas this procedure is only a part of dentistry, as surgery is of medicine. On the other hand, the dentist must appreciate that there are patients having conditions not caused by oral disease who should be referred to a physician for further study. In continental Europe, it is almost a universal custom that one who desires to practice dentistry first must receive the degree in medicine, then at the end of the prescribed course in dentistry, the D.D.S. degree is conferred.

What can be done to afford the dental graduate of to-day a training that will prepare him to render better service in his chosen field?

The only answer to the question is to serve as an intern for one year in a general hospital. There he will acquire much by association with medical men. In return, the patients will receive adequate dental care, and a record of examination, treatment, etc., will be recorded on the patient's chart. When there is no dental intern or dentist on the hospital staff, oral conditions frequently are overlooked, to the detriment of the patient. The medical staff is not competent to give emergency treatment, and there are often conditions due to improper alignment of the teeth that are not recognized by the medical staff. The dental intern is a valuable aid in the treatment of fractures involving the upper and lower jaws. He will learn much in the relationship of oral conditions to the general system, and vice versa, will acquire much practical experience, and will learn a great deal about anesthetics and anesthesia.

SHOULD WE QUARANTINE FOR PNEUMONIA?

This is a very important question, and worthy of the best thought of every physician. The high mortality rate, ranging from 20% to 50% or more (the percentage of pneumonia deaths in cities being about 50% greater than in rural districts), and the distressing morbidity, have given the greatest concern to all administrators of public health, as to what is the best procedure to reduce to a minimum the occurrence of pneumonia.

Pneumonia is not due to a specific virus or microörganism, but may be caused by any one of, or any combination of, a number of pathogenic bacteria which grow, multiply, and set up an inflammatory reaction in lung tissue.

The latest report (1923) of the U. S. Public Health Service gives the following death rate in the U. S.: scarlet fever, 3,449; typhoid fever, 7,961; whooping cough, 8,999; measles, 10,399; diphtheria, 12,705; and pneumonia, 121,572.

Being of the opinion that pneumonias are infectious diseases, and disseminated by spitting, sneezing, and coughing, Dr. C. J. Vaux, Director of Public Health, Pittsburgh, Pa., inaugurated pneumonia (in all forms) isolation and quarantine in the city of Pittsburgh, April 1, 1924, fully appreciating that no more could be expected from quarantine in pneumonia than from quarantine in other communicable diseases, hoping that it would prove of great value in

preventing many persons from becoming sick who otherwise would have contracted the disease.

The following is an epitome of the observations by Dr. Vaux, after one year's experience in the isolation and home quarantine of pneumonia patients: In Pittsburgh, for many years about 25% of all deaths due to disease have been caused by pneumonia. During the first year of quarantine there were reported 4,503 cases, with 1,860 deaths, or 41%. About 70% of the citizens ill with pneumonia were treated in their homes, with a death rate of 38%. About 30% received treatment in hospitals, with a death rate of 45%. Of 341 nonresidents treated in hospitals, 185 died, or 54%. A probable explanation of the high death rate in hospital patients is in the transportation of patients ill with pneumonia. Simply transferring such a patient from one room to another on the same floor may be sufficient to cause death. The death rate from pneumonia in the negroes of Allegheny County is almost four times greater than among white people. During the active working period of life (17 years to 55 years), the deaths from pneumonia were three times greater in the males than in the females, attributed to working conditions and greater exposure and fatigue.

Although the twelve months' experience in isolation and quarantine of the pneumonias has demonstrated that it is a well worth-while regulation, and should be continued indefinitely, it must be borne in mind that there are other activities that must be overcome to reduce further the mortality and morbidity from the pneumonias.

THE PHYSICIANS' HOME—THE FIRST MEDICAL HEARTHSTONE IN AMERICA

In Caneadea, New York, the first unit of the Physicians' Home, is an institution, the ideal of which is to render service to those who through the years have been faithful to a suffering, though sometimes unappreciative, public.

The scope of the institution is national, and as it grows it will care for old and infirm members of the medical profession of any recognized school of medicine of any state. Their wives and widows also will be accepted as guests, and everything possible is done to preserve the home atmosphere.

The staff of the home is headed by a matron. There is no institutional atmosphere about this home. It is a real home for physicians and surgeons who have been honorable in their conduct and yet have fallen victims to the common foes —poverty or broken health.

The home is near the banks of the Genesee River in central western New York, and is surrounded by an area noted for its scenic beauty. It consists of a fertile farm of one hundred and eighty-six acres, the gift of Dr. Stephen V. Mountain, of Olean, N. Y., as a memorial to his father. The house is a commodious structure of twenty-eight rooms.

The home is sponsored by and has the unanimous endorsement of the American Medical Association. It is under the jurisdiction of the New York State Board of Charities, from which it derives its charter. It is officered by such well-known men as Robert T. Morris, Silas F. Hallock, Ralph Waldo, Warren Coleman, Max Einhorn, Albert G. Weed, W. Freudenthal, Richard J. Kevin, and others. It derives support from the voluntary contributions of the medical profession of the United States and kindly disposed laymen who are interested. Any person is eligible to a contributing membership, which costs but $10.00 per year—$100.00 constituting a sustaining membership, paid but once. Many will hear and heed this call from a motive of philanthropy. Others will not be unmindful of the possible protection vouchsafed their wives and widows or themselves, when considered in the light of insurance against a possible adverse turn of the wheel of fortune.

The officers of the home make two requests. Assist your county society to complete a successful organization for the support of this home, and send your check for as generous an amount as your heart and ability may dictate. It is requested that physicians remember this practical and altruistic charity in their testamentary devices, and it is also suggested that they lay it before their friends and patients.

All communications should be made to Silas F. Hallock, M.D., 901 Lexington Avenue, New York City, Secretary of the Board.—*Med. Jour. and Rec.*, Aug. 5, 1925.

INSULIN BY MOUTH

In the Manchester *Guardian Weekly* of Friday, February 13th, 1925, appeared an article from the Berlin correspondent on the perlingual method of administering insulin.

It has been common knowledge for years that a hypodermic tablet placed under the tongue will rapidly absorb, and have effects very similar to those which follow the hypodermic route. This well-known fact, therefore, coupled with the annoyance and more or less pain attendant upon hypodermic administration of insulin, no doubt were factors in suggesting so-called perlingual administration.

Dr. Mendel's paper, "Die Perlinguale Applikation des Insulin" (*Klinische Wochenschrift,* No. 51, 1924), is based upon work done at Golscheider's clinic. He used a dry insulin, in tablet form of one centigram, representing 15 units. These tablets were allowed to dissolve on or under the tongue, a point strongly insisted upon. Mendel found liquid insulin unsuccessful.

Blum, of Strassburg, also reports excellent results, even in severe diabetics, with a soluble and very active hydrochlorate of insulin.

Insulin has also been given by inhalation, after dissolving these tablets in a little water and introducing it in a fine spray. The object, of course, being to take advantage of the absorbing power of a still wider range of mucosa. The results, however, have been less beneficent than in the case of the perlingual method.

Dr. Mendel and his associates, Wittgenstein and Wolffenstein, began their work in 1922, using, as stated, a dry insulin. Their first work with rabbits was unsatisfactory, but their work with dogs was more striking, producing results similar to those obtained by injections, though with less marked effect. They then experimented upon themselves, though not one of them was a diabetic. After fasting for forty-two hours, they took a dose of 45 units, perlingually, all developing hypoglycemic symptoms, and their blood sugar, taken every hour and a half, showed reduction just as it would following insulin injections. They called attention to the fact that in the milder cases, at least, it is a perfectly satisfactory method, though useless in the severer forms, and especially in coma.

SEMINAR EXTENSION

Prior to 1923, Wednesday was just the fourth day of the week in our town, but since that time it has been "Seminar Day," and its noon finds the practitioners of the community at the hospital. The program is arranged by the chairman and includes the presentation of one or more interesting cases which have been admitted recently, the reporting of cases which have died, with discussion of the diagnosis and treatment, and the follow-up of cases shown at previous meetings.

Out-of-town physicians, visiting our town on Wednesday, are invited to attend and asked to take part in the discussion. Short talks are sometimes made by visiting consultants. Some physicians from near-by small towns or from the country are more or less regular attendants.

Promptly at 12:45 the meeting is adjourned, and lunch is served by the hospital—always an appetizing lunch and not so heavy as to unfit one for afternoon office hours.

Certainly every community hospital should have a weekly seminar, open to all the physicians of the neighborhood, and possibly they all do so, but it is not necessary that such a pleasant and profitable institution be limited to hospital towns. The practitioners of any community, no matter how small, would do well to organize a seminar and secure a suitable place where the meeting can be held and lunch served. Cases can be discussed and at times exhibited, short talks made, matters of public health discussed, and brief reviews of new books or journals read. Lunch should be served promptly on time.

Our most prized and sympathetic friendships are to be made in our own profession, but such possibilities are too seldom realized. A weekly meeting, call it by what name you will, followed by breaking bread together, will do much to make possible those responsive friendships which give life its truest value.

CHRONIC CERVICITIS IN RELATION TO FOCAL INFECTION

For about ten years, there has been much interest in focal infection. This has been particularly true since the great epidemic of influenza in 1918-19. Apparently, focal infection has been a greater problem since that time, although metastatic infection must always have existed.

The tonsils and teeth have for several years held the focus of attention as the most probable portals of entry of microörganisms into the lymph and blood streams. There is no doubt that in our enthusiasm to eradicate possible infectious foci, we have sacrificed many healthy tonsils and have extracted teeth which should have been conserved.

Sinus and mastoid infection has at times been adjudged guilty of disseminating bacteria. Infected gall bladders with associated hepatitis, pyelitis, cystitis and prostatitis have been mentioned as probable original foci.

Without doubt, many of the above-mentioned conditions are at times responsible for generalized symptoms and metastatic infections. In addition to the foci mentioned, there is a fruitful source of infection of which we hear little, but which is nevertheless responsible for certain cases of ill health with a train of symptoms with which every physician is familiar; viz., languor, loss of energy, anorexia, nervous and digestive manifestations.

Upon receiving this history, one searches for a lesion which may explain the condition; but

not infrequently, after a diagnostic survey, nothing can be located which definitely explains the symptom complex. The patient may have had a tonsillectomy performed, and perhaps a few or all of the teeth may have been extracted, without any material improvement in the symptomatology.

Chronic cervicitis is a condition from which a great many women suffer, particularly those who have given birth to children, with the almost inevitable laceration of the cervix. In the lacerated cervix, infection readily takes place, and frequently this infection becomes chronic, resulting in some cases in erosion, and in others in a swollen, indurated organ with which is associated a profuse leukorrhea. The leukorrhea may be the only symptom which directs attention to the pelvic organs.

There is no denying the frequency of cervical infection, and anatomically, when we consider the abundance of lymph and blood supply, conditions appear to be very favorable for absorption from this infected area. We know, by numerous bacteriological examinations and by tissue staining, that pyogenic organisms are to be found in a number of these diseased cervices, and that they belong to the group capable of setting up pathological conditions elsewhere, by means of blood- and lymph-stream dissemination.

This focus of infection undoubtedly constitutes a portal of entry for pathogenic bacteria, and has been largely overlooked or neglected. Endocervicitis is of such common occurrence that it has been passed over lightly, and given little consideration as a potential cause of ill health. We have, in fact, been stumbling over the obvious and looking for the obscure.

Cases which have been treated with this idea in mind and in which other therapeutic measures have failed, have given gratifying results. Without doubt, when the importance of this condition is more generally recognized and the disease properly treated, we shall have taken another stride toward overcoming focal infection and we shall be able to relieve many patients who were hitherto unbenefited by our efforts.

A BASIS FOR PROPHECY

The "Education of Henry Adams" was a seventy years' search for a unifying principle in human history, which he found in the formula that "progress consists in the development and economy of force." He used data from many sources in estimating the acceleration of the rate of progress, and found that it has doubled in each decade since 1820. If the acceleration in the decade following that year is given the value of 1, its value for the present decade is 512, and as we mentally review the achievements of our own profession during the years of our practice, we realize the correctness of the estimate which Adams made.

Admitting the rapidity with which man has gained control of the forces of nature during the past few decades, we have, nevertheless, an instinctive doubt that there can be any acceleration of the rate of progress in the future. But this doubt will be dispelled if we consider the manner in which the mastery of natural forces is gained. Points of advance do not remain isolated, but give to many distant and apparently unrelated points the invigorating essential which carries them forward, and progress thus becomes geometrical rather than arithmetical.

Two decades ago the county was an area too large in which to conduct an efficient medical society. Afternoon meetings were usually necessary because of the difficulties of evening travel, and the attendance was limited to those members to whom good train service was available. In more recent years the county society has quickened into life as there became available, through advances made at apparently unrelated points, such agencies for the development and economy of force as the internal combustion engine, pneumatic tires and Portland cement.

Not only has the county medical society been able to extend its usefulness to all parts of its own area, but it is finding that county lines are a restriction to its greatest possible service. Meetings of interest are always attended by members of near-by county societies, to whom programs are regularly sent, routine business is disposed of before the meeting by an executive council, and several counties may unite in holding clinics.

Those intrusted with the leadership of a county society, and with the preparation of its programs, must be alert to expand its services in keeping with the ever widening horizon of its possibilities.

CANCER CONTROL

Approximately 100,000 people in the United States die of cancer each year. One death in every ten over the age of twenty, and one in eight over the age of forty is due to cancer.

Cancer is on the increase. Barclay, of England, made the statement recently that the disease has increased 300% in 70 years. In Philadelphia, during 1905, the cancer deaths were

6% of all deaths over the age of 20; in 1915 the rate was 7.5%; in 1923 it was 10.8%; and in 1924 it was 11.2%. The deaths from other causes have decreased, due to the continued efforts of the medical profession, and to the education of the laity. Otherwise, the above figures would indicate almost 100% increase in 20 years. We must, therefore, increase our efforts, individually and collectively, to overcome this disease. Tuberculosis has been controlled, and yet no specific or ideal cure has ever been found for tuberculosis. Most of the gain has been accomplished by educating the public.

The exact cause and the ideal cure of cancer have not been found. No medical cure nor serum has yet been found, whatever newspaper announcements or advertisements have appeared to the contrary. Lord Atholston, proprietor of the Montreal Star, Montreal, Canada, has a standing offer of a $100,000 prize for any medical cure of cancer. Therefore, when such a cure is mentioned, you may immediately ask why the $100,000 prize has not been collected.

If the medical knowledge now available is utilized to its full extent by the physicians and the laity for the diagnosis and treatment of the disease in its earliest stages, a large proportion can be cured. If the diagnosis is made late and the treatment is improper, incomplete, or begun in the advanced stages, the chance of recovery is reduced to probably one tenth. The methods of treatment that have been found most successful are excision, total destruction by electrocoagulation, or thorough treatment by radiation, sometimes singly and sometimes combined. Contrary to newspaper reports, many cases of cancer are now being cured permanently. If the public can be made to understand that thorough and skillful radiation will sometimes cure cancer, they will learn to apply to their physicians earlier for treatment of what they fear may be cancer. The fear of the knife leads many patients to postpone consultation with physicians, and instead to consult irregular practitioners with the hope of obtaining some magic or medical cure.

To obtain early recognition and thorough and skillful treatment, both the physicians and the laity must be aroused. Toward this end, every county medical society should hold at least one meeting each year for the consideration of the precancerous conditions, the early signs of cancer, and the best methods of their treatment. Each county medical society should also hold at least one meeting annually for the public, to discuss this subject and arouse their interest from the layman's standpoint.

Pamphlets bearing upon this subject can be obtained from the American Society for the Control of Cancer, 370 Seventh Avenue, New York City.

JOTS AND TITTLES

Scientists Asked to Talk English.—At the closing session of the British Association for the Advancement of Science at Southampton, in September, Sir Oliver Lodge made a plea to scientists to talk plain English, saying that the most abstruse questions can very well be discussed in our own tongue, at least in public discussions. Probably the scientific language came about for a number of reasons: partly because during the middle ages all educated persons of whatever race understood Latin; partly because scientific terms are usually the shortest way of expressing a given meaning; and partly because of the love of the ancient priesthood from whom modern science is inherited for making their calling mystical and keeping their methods secret from their victims. These days, we are finding out that this is a bad policy, and are beginning to train the lay people to understand and appreciate our methods. Probably a mutual tongue will in time be brought about by compromise—by dropping some of the ultrascientific terms, and gradually introducing the others into the everyday speech of the people.

Pharmacy Week.—The *P. A. R. D. Bulletin* suggests that at least one week of the year should be set aside by druggists as a week devoted to the exhibition and exemplification of pharmacy, when the store shall be so arranged that every passerby and every one who enters shall see that the place is a real drug store. Of recent years most drug stores have been converted into a species of variety store where everything else is kept in sight but the pharmacy department is effectually hidden behind a high screen. It seems to us an excellent idea to show the public that pharmacy is not the dead letter some folks are beginning to think it.

Timely Warning.—Don't store daffodil bulbs in your vegetable cellar where they may be mistaken for onions. They contain a poisonous alkaloid, narcissine, which is not destroyed by cooking, and which acts within a few minutes of ingestion and is capable in small quantities of producing severe symptoms. Even doctors may make this mistake, and the warning published in *Hygeia* is worth heeding.

To Condense Electricity.—An invention that would solve the problem provided by products of combustion in our large cities has been announced at Leningrad, Russia, by A. F. Joffe, of the Academy of Science. The inventor claims that he has succeeded in obtaining a concentration of electricity sufficient to drive the most powerful motorcar for ten days in an object small enough to go into a waistcoat pocket. Doubtless this is bound to come in time, and we can only hope that it can be developed commercially in time to save us all from an untimely death by carbon-monoxid gas.

Nurses' Association to Coöperate in Public-Health Education.—The *Journal of the Michigan State Medical Society* makes a suggestion that might be studied with profit by our Committee on Public Relations. The State Nurses' Association was requested to appoint a committee to undertake, in conjunction with the State Society Committee on Public Health Education, the task of preparing some definite medical information to be supplied by the trained nurse to her

patients and their families. A nurse is in closer contact with them than the physician, and they discuss with her medical facts and theories, so that she is in an excellent position to disseminate scientific medical truths and refute the claims of quacks and cultists. "If the majority of our graduate nurses could be supplied with certain facts in regard to health, disease, and medical truths, and if these nurses would disseminate these facts at some time during their service on each case, the public would be the recipient of information that would be of untold value. Such a campaign would materially aid the work of our committee in educating the public in regard to the truths of modern medicine."

A Successor to Abrams.—A village rector in England, Rev. B. J. Corder, who is said to have done valuable research work for Lord Fisher's Committee on Inventions, has announced that every human body is an electric generator, and each has its own electrical frequency which can now be detected by delicate instruments. "The principle of my instrument," he says, "is quite simple—a rectifying crystal in conjunction with a very sensitive capillary electrode. *What yet remains to be ascertained is the definite wave length between the normal and the subnormal condition of the human body and the application of this process to the several diseases.*" (Italics ours.) Mr. Corder hopes he has put Abrams's work on a firmer basis and hastened the day when electrical diagnosis of diseases will be possible. It would seem to us that there is still considerable remaining to be done!

Episcopal Report on Faith Healing.—Believing faith healing to be a part of the proper function of the Church, the Episcopal Church appointed a commission which approved the principle of Christian healing without making any formal recommendation. This commission was succeeded by a Joint Commission on Faith Healing, whose report is to be submitted to the General Convention in New Orleans this month. This report urges that the "therapeutic value in the Christian religion" must not be neglected; that the cure of bodies must include the cure of souls, and vice versa; that healing by faith and by medicine are not contradictory, but supplementary; that faith in God and faith in the physician must be blended for the best results; and favors the treatment of disease by a combination of spiritual and medical means. Methods suggested are: "In view of the specific commission given to the Bishop at his consecration to 'hold up the weak, heal the sick, bind the broken,' etc., the following agencies naturally fall under his supervision: Healing services, the sacraments of the Church as channels of healing, prayer groups conducted by clergy or laity under clerical supervision, anointing, classes for instruction in the principles of Christian healing, the dissemination of wisely selected literature, and the introduction of affirmations of truth and ideals of health into our systems of Christian child nurture." With proper cooperation with the medical profession, this ought to be a step in the right direction.

Too Much Strenuosity Bad.—Lately there has been a recrudescence of intemperate athleticism, especially noticeable in attempts to swim the English Channel, the Delaware River, etc. Sports are good; but too-strenuous sports are bad. Rarely does the champion athlete live to a ripe old age; rarely does he fail to develop defects due to overstrain. There is a crying need to teach our young people temperance in the use of their most valuable possession—health and strength.

Leprosy.—Three interesting articles dealing with leper colonies maintained by the United States have recently come to our attention, and are well worth mention. Our country maintains four leper colonies—in Louisiana, Panama, Hawaii, and the Philippines. There are 258 patients in the leprosarium known as Hospital No. 66, situated at Carville, La. Twelve patients have been paroled, and more will be released from month to month. The Palo Seco Colony is described interestingly by Nelson Rounsevell in the *Panama Times* for July 25th. Established in 1906, 234 cases have been admitted during the nineteen intervening years. Of these, 88 have died, 32 have been paroled, 20 have been repatriated, and 94 remain as inmates. The patients are well cared for, and lead lives more active and happy than one who is not acquainted with the work would imagine. The picture of the colony at Culion, in the Philippines, presented in the *Saturday Evening Post* for August 29, is not so bright. Facilities are represented as inadequate, and assistants as insufficient, although more than 400 patients have been returned to their homes as cured. The opportunity for research is great in this colony, and an appeal is made for better support of the work. The discovery that the ethyl ester extract of chaulmoogra oil is efficacious in the treatment of leprosy is one of the high lights in the wonderful development of scientific medicine during the past few decades.

PUBLIC HEALTH

Health Work Among Public-School Children in Syracuse, New York.—There is much of value in the Quarterly Bulletin issued in July, 1925, that will be of practical help to the general practitioner, as well as physicians who are acting as medical inspectors of schools. The practitioner, too, should know the activities of the school medical inspection in order that he may coöperate. The children are showing more concern in their health and fewer signs of carelessness in personal hygiene. The present plan of health supervision calls for a complete physical examination of healthy children three times during the eight years' course, and in many cases oftener. One full-time physician conducts special examinations of selected children, assists in the survey and treatment of pupils afflicted with goiter, supervises Schick-testing and immunization of children against diphtheria, and helps carry out the health programs outlined for the open-air schools.

Once each week throughout the school year all pupils are inspected by the school nurses for signs of contagious diseases. The children are weighed and measured, and, as required, are assigned to the sight-conservation classes, the nutrition classes, the class for stutterers and for pupils with defective speech, or the classes conducted for children who are mentally retarded.

Much has been accomplished in correction of physical defects. Dental hygienists clean and chart the teeth, counsel the parents in the correction of dental defects, and instruct the children in the care of the teeth. Instruction in health habits and in the proper care of the body is stressed.

These principles have been extended into the village and outlying one-room rural schools, through the cooperation of local school authorities, the county health officer, and by voluntary assistance. The physicians in any community may do much to initiate this altruistic work, and it affords many suggestions for daily observance in his own practice.

Daily Health Check-up of Students Desirable.—Periodic examination of all students in all schools of learning, even the universities, should be a requirement on the part of the administration. Universities without

a hospital convenient should maintain an infirmary, with a commensurate number of beds, for the examination, diagnosis, and treatment of sick students. The institution should try to solve the problem of discovering sick students at the very beginning of the illness. Too frequently, a student will not complain or give up work until the illness is disabling. A system easily could be adopted of accounting for every student every day by means of lists of absentees from classes, and by a daily canvass of the dormitories. The clinical thermometer frequently will detect the acutely ill, and "separate them from the night owls and the neurasthenics." Where students room in boarding houses, obviously there is a loss of control.

Delaware Orders Yellow Crassards for Sufferers from Whooping Cough.—If you see some one in Delaware wearing a yellow band around his coat sleeve, keep away, for it is likely he has whooping cough, and under a recent ruling of the State Board of Health, hereafter all sufferers from this disease will be compelled to designate themselves with bright yellow. The trouble with keeping down an epidemic of whooping cough is that the children, after they partly recover, mix and play with healthy children. They go to church and movies and other places where crowds congregate, and thus are a menace to all healthy individuals. Last year there were fourteen children under one year out of twenty-eight who died from this malady; nineteen were less than five years old, and twenty-six were under ten. The protective idea is a simple one and has been used with great success in Newark, N. J., and in Connecticut. Under penalty every such person will be compelled to wear the arm band of yellow about five inches wide, on which is printed the words: "Whooping Cough, State Board of Health." The band is supplied by the State.

A Busy Committee.—Following is a summary of the report of the committee on public health and medical education, at the 1925 session of the Medical Society of the State of New York:

1. A survey of county societies as to the best method of popularizing periodic health examinations.
2. A survey of active physicians in the State as to the amount of time they give to public-health work and what of importance this phase of their work has developed.
3. A survey of the relation of county societies and the State Society to charitable and philanthropic work throughout the State, depending largely upon its medical phase for success.
4. A study of the relations of the medical schools of the State to postgraduate work, and the possibility of its more general extension.
5. A survey of the character of the work of the public-health committees of county societies and the relation of individual members to such work.
6. The problem of greater availability of hospitals throughout the State for postgraduate teaching.
7. The problem of postgraduate work for physicians in the smaller centers and county districts.
8. Relation of the State to the general question of the scope of medical and premedical examinations for persons practicing the healing art, in point of its application to all such persons.
9. Study of the problems of medical treatment for people in sections of the State too sparsely settled to support a physician.
10. Propriety of publishing a manual for use in making health examinations.—*New York State Medical Journal.*

Fire Losses.—The Fire Marshals' Association of North America, meeting in September at San Antonio, Texas, was told by S. W. Wade, the president, Insurance Commissioner of North Carolina, that 17,000 lives are annually lost by fire in this country.

Outbreak of Typhoid.—York has been experiencing an epidemic of a rather virulent form of typhoid this summer, which the city health director, Dr. J. Frank Small, believes has reached its peak. The doctor states that there are from 75 to 100 per cent more cases in Pennsylvania this year than last year.

Anti-Noise Drive.—The campaign in Philadelphia against unnecessary noise, particularly aimed at excessive use of loud horns and "cutouts" by motor cars and trucks in the vicinity of hospitals, has been endorsed by Dr. Wilmer Krusen, Health Director. This is a good example which should be followed by other cities.

Milk Ruling to Be Retained.—Secretary of Health Miner has announced that there will be no change in the regulations for pasteurization of milk, as recently requested of the Advisory Board of his Department by the Supplee-Wills-Jones Milk Company, of Philadelphia. The Board agreed that the present regulations are "logical, practical, and necessary for the prevention of disease and for the protection of the lives and health of the people of the State."

U. of P. to Sponsor Child-Welfare Work.—Announcement has been made by Dr. Lightner Witmer, founder of the Child-Welfare Clinic at the University of Pennsylvania, that arrangements have been entered into with the Department of Psychology, the Medical School of the University, and the Carter Foundation which will enable the University to sponsor an intensive program of child aid. Assisting Dr. Witmer will be Dr. Edwin B. Twitmyer, an authority on child psychology and corrective speech, and James S. Heberling, professor of child helping and former director of the William T. Carter Junior Republic.

Springs and Wells.—The owners of a well situated on property adjacent to a village high school in New York sued the village board of education for damages because this well had become contaminated with sewage which, it was claimed, came from cesspools connected with the school's chemical closets. The Supreme Court rendered a decision in favor of the school board, the reasons given being that the location of the spring—a few hundred feet below a barnyard and also below and a short distance from a privy vault—rendered the well an unsafe source of drinking water even before the contamination of the water from the school cesspools.

Shallow wells and springs are very apt to become polluted after heavy rains. The surface washing of human excrement are naturally carried into the streams from which drinking water is obtained. The gradual filtration is slowly percolated into the ground and washed along the surface until it reaches the lowest place, and unless the well or spring is protected from surface water, it is likely to get into it. The only safe protection is a sanitary privy, and certainly our schools should take the lead in establishing this form of sanitation.

Increasing Popularity of Dental Hygienists.—The growing demand for dental hygienists has led to the establishment of special schools and courses for their training in ten of the large universities of the country, and the passing of laws governing their education and licensure in twenty-one states (including Pennsylvania). The length of the courses offered varies

from one to two academic years, and the compensation from $80 to $200 per month. The field of work covers the public schools, hospitals, clinics of welfare agencies and industrial plants, and employment by individual dentists as assistants or by departments of education for city, town, or rural work. The work of the hygienist is largely that of examination, cleaning of teeth, and instruction in dental hygiene.

Porto Rico Issues Health Bulletin.—The Department of Health of Porto Rico has recently issued the first number of a monthly periodical known as the *Porto Rico Health Review.*

Dental Health Talks.—The Chicago Dental Society's Public Service Committee is planning a campaign of Dental Health Education, and for that purpose is training a class of twenty-five speakers. In order to secure material for the use of these speakers three hundred and fifty dollars will be given in prizes. Seven prizes of fifty dollars each are offered for the best twenty-minute speech suitable for presentation to the following types of audience: grammar-school children, high-chool children, parent-teachers audience, Kiwanis-Rotary Club audience, church audience, factory talks—employees' audience, radio talks.

Points to be considered: simplicity of English, facts, suitability for specific audience.

Any contributor is eligible to write on any or all subjects. Write on one side of paper only. Place manuscript in envelope with separate note giving name and address of sender. Writers agree that all material may be used by committee. All material should be in by October 1, 1925.

Address all mail to Dr. F. B. Rhobotham, Room 1406, Field Annex Building, Chicago.—*The Dental Cosmos,* September, 1925.

Sanitation of Tourist and Automobile Camps.—This is a matter that must receive the attention of all health officers, now that touring by automobile is so common. The establishment of these camps should be prohibited except by permission of the health authorities, and at all times they should be run according to approved sanitary rules.—*Journal of the Indiana State Medical Association,* August, 1925.

Drive Is Opened on Street Venders.—On August 29, John H. Tryon, general agent of the Bureau of Foods, of the State Department of Health, destroyed drinks and ice cream not conforming with the law, that were being sold outside one of the baseball parks in Philadelphia. By the State law, lemonade or orangeade sold in bulk must not be contained in wood, tin, or zinc pails or barrels; it must not be kept cool with the addition of ice; it must be drawn from closed containers; and it must not contain saccharin. One negro had chosen a fish bowl as the container for his lemonade, and was doing a land-office business with a ladle. Each offender, or prospective offender, was presented with printed copies of Section 399 of the Pure Food Law of 1925.

INDUSTRIAL MEDICINE

Contributions Invited.—Realizing the growing interest in industrial medicine and hygiene and the clearly demonstrated need of more and more efficient health service for industry, the Journal is inaugurating with this issue a department devoted to these subjects. The editor of this department would welcome suggestions and contributions from any one especially interested in any phase of industrial health service.

A Program for Providing Health Supervision to Groups of Small Industrial Plants.—A survey to determine the extent of medical service in the industries of Philadelphia was made last year jointly by the Philadelphia Health Council and Tuberculosis Committee and the Association of Industrial Physicians. Following this survey, which showed an almost complete lack of health service in the smaller industries of the city, the Health Council has developed a program for providing health supervision to groups of small industrial plants. To stimulate interest in health service in these plants, health examinations of employees have been made in about forty small plants, and a total of 2,700 workers have been examined.

The Council is now organizing groups of small plants having a total of 1,000 employees into units, and will supply health supervision, including medical and nursing service, first-aid instruction, and continuous sanitary inspection of such plants, on a cost basis, furnishing to each plant the amount of service needed. This work is in the nature of a demonstration, and after the units have been established and the service carried on for a year or two under the supervision of the Health Council, it is planned to have the plants take over the supervision of the service and continue it themselves. By grouping a number of small plants, reasonably close together, in a unit, it is believed that a health supervision can be provided in industries which are too small to establish an independent health service at a cost not out of proportion to that paid by large industries. The development of this promising work is being eagerly watched by persons interested in industrial health in Philadelphia.

Dr. W. J. McConnell, formerly of the Bureau of Mines, Pittsburgh, has been secured by the Health Council for the medical aspects of this service and Mr. J. Kenneth Winter, formerly Medical Instructor of the Pennsylvania Zinc Company, Palmerton, Pa., is organizing the work.

Increasing Appreciation of Industrial Medicine.—One of the foremost industrial surgeons in Pennsylvania states that in his judgment one of the most evident signs of progress in industrial medicine is the growing appreciation by the worker of the efforts of the industrial physician. Workers show an increasing tendency to accept such activities as physical examinations, medical and surgical service, and improvements in plant hygiene and sanitation as real aids to themselves and as activities carried on in their interest.

Survey of Paint-Spraying Industry.—The Pennsylvania Department of Labor and Industry is conducting a survey and study of the paint-spraying industry throughout the State. The spray gun is being used increasingly to apply protective and decorative coatings of various kinds—paint, varnish, enamel, lacquer, cement, and fire clay. While a great aid to many branches of industry, yet it may materially increase the hazard of certain industrial poisonings, such as lead, benzol, amylacetate, etc., if not properly used.

The field study and laboratory investigations are being conducted by a group of two industrial physicians and two chemical engineers. Their findings will be reviewed by an advisory committee including representatives of the U. S. Public Health Service, the Bureau of Mines Laboratory, a large life-insurance company, a very prominent industrial hygienist, and representatives of industry and labor. The report of this committee will form the basis of State regulations governing the use of spray-painting equipment.

INDUSTRIAL HYGIENE MEETING.—The program of the Industrial Hygiene Section of the American Public Health Association at the annual meeting in St. Louis, October 19 to 22, will be of unusual interest to industrial health workers. It will include joint sessions with the Sanitary Engineering and the Public Health Administration Sections. The latter includes a symposium on the relation of public-health workers to industrial hygiene and a discussion of the need of legislation to control the distribution in interstate commerce of poisonous substances other than foods. The former includes discussion of three very important subjects, ventilation, lighting, and the carbon-monoxid hazard.

Public-health workers interested in industrial hygiene problems should make every effort to attend these meetings.

PREVENTIVE MEDICINE AND ABSENTEEISM.—According to an article by Dr. H. D. Martin in *Hospital Management*, the medical department of the United States Shoe Company saved the company $50, in one year by reducing absenteeism of women. It was through scientific observation, supported by a properly directed educational campaign, thoughtful consideration, diagnosis, and treatment that they were able to realize the above result. The proof that industry should resort to medicine lies in the fact that medicine has been able to increase efficiency, decrease absenteeism, and increase production.

RADIUM PAINT DANGEROUS.—In the August, 1925, *Journal of Industrial Hygiene*, K. R. Drinker and C. K. Drinker report a series of five cases of necrosis of the jaw, three of them terminating fatally, in workers employed in applying a luminous paint containing radium. The workers were exposed to minute amounts of a very fine radium powder. In addition to the necrotic bone conditions the patients showed distinctive blood changes, particularly in the relative proportions of the white blood cells found.

EYESIGHT-CONSERVATION LECTURES.—*Bulletin 5*, recently issued by the Eyesight Conservation Council of America, Times Building, New York City, price 40 cents, describes lectures and lantern slides available to "all those who may be in a position to present the subject of 'Conservation of Vision' by means of illustrated lectures." Slides may be rented at reasonable rates, but will be loaned where funds are not available to pay rental charges. This service should be particularly valuable to industrial physicians, and to public-health speakers before the general public as well as in schools.

SURVEY OF CHILD EMPLOYMENT.—The National Industrial Conference Board has recently announced that a census of all the children employed in the United States shows that 13% are found in the cities and 87% in the rural districts. Of these rural child workers, 90% are employed or engaged on the home farm. This would appear to refute the general belief that child labor obtains principally in the large industrial centers.

INDUSTRIAL ACCIDENT INCREASE.—Industrial activity in Ohio is evidently increasing. During the month of May, the industrial accidents increased 15 per cent over the number recorded for the month previous.

A recent report from the Ohio Industrial Commission shows that there were 15,283 workmen injured and 79 killed during the month of May. Disbursements for this month totalled $1,002,928.48, and receipts $835,-455.83. There were 33,177 employers subscribing to the fund, of which 674 represented new risks.—*Ohio State Medical Journal*, July, 1925.

NURSES ARE WORKING FOLKS.—Decision of the State Workmen's Compensation Board that an Easton nurse, suffering an attack of tonsilitis, "caught" by a patient coughing in her face, is entitled to workmen's compensation, is said to establish a precedent in its recognition of a professional nurse as a worker.

That is somewhat strange, if true, although it may be that the definition of occupational disease has not previously been spread sufficiently to apply in such circumstances as these. But a nurse is a worker for hire, dependent on earning power, and if a victim of casualty, is as much entitled to the benefits of compensation as any other worker.

Pennsylvania policy has so broadened the reach of compensation that it is somewhat surprising to read of any precedents being established. It is rapidly approaching the point where it will become a system of accident and health insurance, regardless of the responsibility of employment. Recently an award was made in the case of an accident occurring at a picnic of a store organization, the ruling being made that the victim as an employee of the store was attending to his employer's business in participating in the picnic with his fellow employees.

A nurse incapacitated for earning by reason of an accident occurring in the course of her work, even though the accident was a cough by a patient, rather than the fall of a brick or some other violent mishap, certainly is to be considered as directly and definitely a casualty of work as the victim of a mishap at a picnic. —Philadelphia *Evening Bulletin*.

A REVIEW OF INDUSTRIAL OPHTHALMOLOGY.—The recognition of industrial ophthalmology has not come about suddenly, for it is only within the past twenty years that it has taken its rightful place in the field of industrial medicine. True it is that ophthalmology in industry has been given some consideration before this, but it never received the thorough and scientific study which obtains to-day; and as a result, a fairly accurate, comprehensive, and intelligent plan for dealing with this highly important branch of medicine has been developed.

In the year 1913 there were two million accidents to workmen in the United States, 25,000 of which were fatal. At that time, however, there was no attempt made to classify the different injuries, and so there is no information on the number of eye injuries or the occupations which were conducive to trauma of the eyes. The year 1917 saw an appreciable drop in the number of industrial accidents, when there were 700,000 reported, and of these 59,000 were eye injuries, or 8.3 per cent. These figures were not exact for the reason that many states did not have industrial insurance at that time.

Statistics show that in 1910 there were six times as many blind persons reported as in the year 1850, whereas the population scarcely quadrupled during the intervening period. Then, too, with the exception of the last decade, each decade has shown an increase in the number of eye accidents and cases of occupational eye disease. Also interesting to note is the fact that 59 per cent of the blind population is located in the New England, Middle Atlantic and North-Central States. This same area includes 55 per cent of the total population, and the centers where the greater percentage of the industrial accidents take place. The report showed that eye accidents were more prevalent among males than females, which is explained by the dangerous occupations engaged in by the male.

The following, then, is a fair résumé of the incidence of eye accidents, the cases of blindness resulting there-

from, and the economic significance. "(1) Yearly there are two million nonfatal accidents, and of this number probably 200,000 are accidents to the eye. (2) In the United States to-day there are approximately 15,000 persons who are blind as the result of accidents and injuries in industrial occupations. (3) The maintenance of these blinded artisans during the remainder of their lives will cost yearly ten million dollars, which expense will fall on the relatives, community, or state."

With the idea in view of obtaining accurate information on industrial eye accidents, a survey was made of seventy plants employing 35,000 workers in Buffalo. The survey was made in 1916 by the National Committee for the Prevention of Blindness. A partial list of plants studied are the following: stove, brass, copper, aluminum, sheet iron, casting and forging, hardware, instruments and electrical apparatus, chemicals, oils. Heading the list of industrial eye accidents are those occurring in the manufacture of iron and steel; then mining and quarrying. The handling of acids and chemicals also comes in for a share in the causation of eye injuries, and the nature of the accident is usually a severe burn of the globe. The injuries sustained in following agricultural pursuits are second to none: the hammering of farm machines, home repairing, flying staples in installation of barbed-wire fencing, and wood chopping.

The carelessness of workmen in all industries is responsible for a large share of the thousands of infected eyes in which irreparable damage has been done. A workman will permit a well-meaning comrade, at the time of the injury, to remove a foreign body which has lodged on or in the eye, and of all the hazards to eyesight, this is one which no doubt is most frequently encountered. The possibilities for impaired vision, or even total loss of sight are so great that every means tending to its elimination should be adopted. In a series of 8,000 eye cases causing temporary disability due to foreign bodies, over 500 were attended by infection.

Some of the measures instituted for the prevention of eye injuries are: (1) Wearing of goggles; (2) elimination of mushroomed tools and those made of poor quality of steel; (3) protection of fly and emery wheels; (4) protection of water gauges; (5) introduction of the helmet; (6) improved methods of handling chemicals; (7) first-aid instruction; and (8) installation of efficient illumination. The American Locomotive Co., New York, where 11,000 men are employed, reported a marked decrease in the number of eye accidents after the introduction of goggles. Where in 1910 there were 518 eye accidents which resulted in the loss of 13 eyes, the same plant in 1915 showed 52 eye injuries with a loss of only two eyes. Certain it is that this is sufficient evidence to prove the value of goggles.

Most of the large industrial plants now have their own medical staff, whose duties call for short, plain talks to the employees on the importance of attending to all injuries and the danger that might occur from neglect. The men are taught first aid as it is applied to the eye and other injuries, and are told their limitations. In the larger plants a dispensary will be found easily accessible where a medical attendant is in charge. The employees are ordered to report all foreign-body cases to the plant doctor for attention, and in this manner intelligent care is given and the danger of infection is minimized. Where there are burns resulting from caustic soda, small bottles of 2-per-cent dilute acetic acid are placed at intervals in manufacturing plants, and the workers are instructed how to use it when the emergency demands. The acetic acid neutralizes the caustic soda and converts it into harmless sodium acetate. Another method used by some corporations is that of zinc sulphate, ½ per cent. The advantage claimed for the zinc sulphate is that it is less irritating, more complete in its action, and is an antiseptic of known value. The acid burns call for quick action, and this can be obtained by neutralizing with sodium bicarbonate. Later, cocain and olive oil are instilled in the eye.

The large industries to-day have in their employ a partial- or full-time ophthalmologist, whose duties require him not only to treat eye affections but to give a thorough examination to all prospective employees. Thus are eliminated all those whose visual acuity does not come up to a fixed standard. Another factor which should prove beneficial would be the closer coöperation of the general practitioner and ophthalmologist, especially in the great industrial centers, where the vast majority of eye accidents occur yearly. The general practitioner plays a very important rôle in the treatment of these eye injuries, and he must not forget that we are living in the period of specialization and that no man can be an expert in all branches of medicine. It is quite essential that he realize his limitations and act accordingly. Whenever he transgresses these bounds he will be sure to cause a great deal of misery for the patient and much annoyance for himself.—M. P. Otto, *Ohio State Medical Journal,* July, 1925.

HOSPITAL ACTIVITIES

The Clinical Congress of the American College of Surgeons will hold its annual session at the Bellevue-Stratford Hotel, Philadelphia, October 26, 27 and 28, 1925. A hospital information and service bureau will be maintained to give assistance to hospitals. Hospital trustees, hospital personnel, members of medical staffs, and the medical profession are urged to attend the hospital conference.

In addition to the papers to be presented, a round-table conference will be conducted, including the following topics for discussion: The relation and responsibility of the hospital administration in preoperative preparatory procedures. The relations and responsibilities of the intern. The best methods of making more efficient the instruction and experience of the interns and nurses in the surgical department. Responsibility of the surgeon in promoting economies in the surgical department. The most efficient arrangement of concurrent staff services in relation to duty. The essentials for an efficient anesthetic department. Supervision and control of the surgical department. The "open hospital" policy. The best means of handling extra charges for special services. A plan of procedure in selecting members of the medical staff and extending privileges to doctors to practice therein. The ownership of the case record. The best means of improving the quality of case records. The relation of the medical staff to the board of trustees. The hospital and the private-duty nurse. The relative advantages and disadvantages of continuous versus divided ward services in a hospital. Dental service in hospitals. Isolation, segregation, and observation accommodations in all hospitals. The problem of the tuberculous patient in the general hospital. Physiotherapy in hospitals.

Contracts Awarded for New Hospital.—The contracts having been awarded for a sum approximating three million and a half dollars for a new Philadelphia General Hospital to rise on the site of the old Blockley

structure, ground was broken on September 21, 1925, addresses being made by Mayor Kendrick and the Director of Public Health, Dr. Wilmer Krusen. It may be said that the sun does not set where there is not a physician who has "walked the wards" at Blockley. The medical teaching this institution has afforded in the past always will be a beautiful memory in the annals of medical education of Philadelphia. The demands are such that a greater and larger institution must be erected, and the new Philadelphia General Hospital will continue to be the center of hospital teaching in Philadelphia.

Separate Dishes, Cutlery and Kitchens Necessary for Preparation of Food According to the Mosaic Law.—Beth Israel Hospital maintains a strictly kosher kitchen.

The personnel involved in the maintenance of such a kitchen is the same as a non-kosher kitchen with the exception that in an institution desirous of making sure that the requirements of the Mosaic laws are met, a supervisor of koshers should be employed. In the ordinary Jewish household, the wife usually performs that function.

The special equipment consists of separate dishes, pots, pans, cutlery, etc., for milk and meat diets, as well as a kitchen for the meat meals and another one for the milk meals. Meat may not be eaten with butter, nor cooked with milk, or butter, or cream, or cheese. Nor may a utensil that is used for "milk" foods be allowed for a "flesh" container. For example, a knife used for the spreading of butter may not be used for cutting meat. A pot in which meat or chicken has been cooked, or in which a derivative of these foods, as for example, beef fat or chicken fat, has been contained, may not serve for cooking milk or holding cream.

The dishes must be kept in separate locked compartments, so that when the milk dishes are in use, the meat dishes are locked and not available, and vice versa. There must be separate dishwashing machines for each set of dishes, for the meat dishes cannot be washed in the same machine as the milk dishes. It is obvious that milk and meat meals cannot be served at the same time.

If meat is bought in the quarter, special provision must be made for the koshering of the meat which consists of a room where the meat is salted and soaked. This may, however, be taken care of for the institution by the butcher supplying the meat, so that the meat is already kosher when it reaches the institution.

During the Passover week a separate set of milk and meat dishes are used.

The operation of a kosher kitchen is quite simple, if there is coöperation and the administrative staff is in earnest with regard to the enforcement of its regulations. We are running a kosher kitchen in our present hospital without any difficulty.

As to the type of food served in an institution operating a kosher kitchen, there can be no shell fish or meat of the pig. Otherwise, the type of food is the same. The preparation, however, is different, for meat cannot be fried with butter, nor cream sauces served with meats, nor can coffee be served with milk and meat.—From a letter of Louis J. Frank, Superintendent, Beth Israel Hospital, New York, to the Hospital Library and Service Bureau, Chicago, in answer to a request for information concerning problems and equipment of a kosher kitchen. (*Hospital Management*, August, 1925.)

Schuylkill County Tuberculosis Hospital.—The people of Schuylkill County, it is said, voted for the erection of a county tuberculosis hospital under a law which was since declared to be unconstitutional. It is now a question whether another vote of the people will not be required under the changed law passed by the Legislature of 1925 before the hospital can be erected legally. Officials state that the hospital will be built if the present law is declared constitutional, although they are loath to obligate the county, in the present state of its finances, for the initial expenditure of $250,000, to which must be added the annual maintenance charges of $60,000. It is expected that the financial slump will be remedied in another year.

Increased Service of the American Hospital Association.—The establishment of a permanent office and a full-time secretaryship by the American Hospital Association will permit the Association to carry out to the fullest extent the services it desires to render to hospitals. The secretary, Dr. William Walsh, was formerly superintendent of the Children's Hospital, Philadelphia. "As the only national group interested primarily in hospital-administrative and allied problems, the American Hospital Association is the logical clearing house for information and service of this kind, and in working toward this goal, it is unhampered by limitations which prescribe the hospital service of other associations whose fundamental objects are not concerned with strictly administrative problems."

Dietetic Meeting.—The annual session of the American Dietetic Association was held in Chicago, October 12-15, 1925. The president's address was delivered by Dr. Ruth Wheeler, on "The Dietary Care and Advice Desired by the Surgeon in Preparing Patients for Operation and After Operation—Particularly in Hypothyroid, Obesity, Gall Bladder, etc." The tentative program outlined a very well-worth-while meeting.

Tax-Relief Measure Vetoed.—Governor Pinchot, of Pennsylvania, during the recent legislative session vetoed a bill which had been passed by the Legislature to relieve to some extent inheritance taxes on bequests for hospitals and allied institutions. The reason given by the Governor for the veto was that many bills had been passed by the Legislature for large sums in excess of revenues, and the inheritance-tax measure would have reduced the revenues of the State by about $1,000,000.

More Use for Radio.—Radio's short waves and high frequencies offer many possibilities in commercial and scientific fields. They have been found useful in furnaces at high temperatures, and are being used in extracting nitrogen and in making gasoline. The short waves have also been made the active force in a radio knife, which, while it has certain uses in surgery, is not expected to become the implement of the general practitioner. It will be part of the equipment, however, of an up-to-date hospital.—Philadelphia *Evening Bulletin*.

What's In a Title?—There is much agitation as to the title to be given the executive officer of a hospital. *Superintendent, administrator,* and *director* are now synonymous terms. After all, the formerly universally used term "superintendent" was known by every one. With the creeping in now of the other two titles, no doubt hospitals will vie with each other as to the appellation to be used for the executive in question.

American Hospital Association.—The annual session of the American Hospital Association will be held in Louisville, Ky., October 19-23, 1925.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

HISTORY OF THE LYCOMING COUNTY MEDICAL SOCIETY

Volume I of "A History of the Lycoming County Medical Society," published in 1925, by authority of the Lycoming County Medical Society, is a four-hundred-page volume, so attractively bound as to invite attention. The volume is divided into three parts: Book One, History; Book Two, Biography; and Book Three, Miscellaneous.

The historical material begins with the year 1777, when the first physician located to practice medicine in the section of north-central Pennsylvania now including Lycoming County, and ends with the formation of a Woman's Auxiliary to the Lycoming County Medical Society in 1925. A dozen pages are devoted to the experiences of individual physicians prior to the first organization of the county society in 1844; then follows a chapter devoted to the "Embryonic Period," of the society—1844 to 1864. Since the second reorganization in 1865, the society has been consistently active, and its activities are recorded year by year, inclusive of 1920. A brief chapter is devoted to the society's contributions to its country's defense, and Book One is concluded with biographical sketches of deceased members.

Book Two contains biographical sketches of living members, briefly but graphically presented, and is, as is the volume throughout, illustrated profusely with good reproductions of photographs of members, former members, and groups, as well as several of the hospitals.

Book Three includes a "Review of Abdominal Surgery in Lycoming County," by H. J. Donaldson, M.D.; the "'History and Progress of Medical Organization in Pennsylvania," by Walter S. Brenholtz, M.D.; information regarding various hospitals of the county; and several articles by members of the society on subjects of scientific or economic interest to members of the medical profession.

This publication will undoubtedly take its place in the first rank of histories issued by component county medical societies, and is a great credit to the editor, Charles J. Cummings, M.D., and his staff of ten associate editors. It is hoped that the History will enjoy a wide circulation, not only among members and former members of the Lycoming County Medical Society, but among those medical societies contemplating the publication of a similar history.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since August 12. Figures in first column indicate county society numbers; second column, State Society numbers:

Sept. 1	Erie	139	7355	$5.00
	Westmoreland	140–141	7356–7357	10.00
	Lawrence	57	7358	5.00
	Bedford	15	7359	5.00
	York (½ yr.)	123–124	7360–7361	5.00
	Butler (½ yr.)	55	7362	2.50
Sept. 10	Washington (½ yr.)	137	7363	2.50
	Bedford	16	7364	5.00
	Cumberland	34	7365	5.00
	Westmoreland (½ yr.)	142–144	7366–7368	7.50
	Westmoreland	145–146	7369–7370	10.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to September 16:

ALLEGHENY: *Removal*—N. A. Kopelman from New Kensington to Arnold (West. Co.).

BERKS: *Death*—Abram K. Wanner, Reading (Jeff. Med. Coll. '98), August 12, aged 55.

BEDFORD: *New Member*—Harry A. Shimer, Bedford; *Reinstated Member*—Harry I. Shoenthal, New Paris.

BUCKS: *Death*—Frank B. Swartzlander, Doylestown (Univ. of Penna. '94), August 22, aged 51.

BRADFORD: *Death*—Gustavus Conklin, Orwell (Jeff. Med. Coll. '62), August 14, aged 87 (affiliate member).

BUTLER: *New Member*—Charles F. Daubenspeck, 224 N. Main St., Butler.

CUMBERLAND: *Reinstated Member*—Harvey B. Bashore, West Fairview.

DAUPHIN: *Removal*—William S. Russell from Harrisburg to 3919 Baltimore Ave., Philadelphia (Phila. Co.).

DELAWARE: *Removal*—Kirksey L. Curd from Chester to 4054 Aspen St., Philadelphia (Phila. Co.).

ELK: *Removal*—Adelbert D. Dye from Westborough, Mass., to Danville State Hospital, Danville (Montour Co.).

ERIE: *Reinstated Member*—John W. Wright, 247 W. 8th St., Erie.

LAWRENCE: *Reinstated Member*—William L. Steen, New Castle.

MONTOUR: *Removal*—Lester P. Fowle from Danville to Lewisburg (Union Co.).

PHILADELPHIA: *New Members*—Griffiths C. Brannon, 2700 W. York St.; W. J. Winters, 1513 Erie Ave., Philadelphia. *Reinstated Members*—Paul A. Bishop, 3421 Race St.; Louis J. Burns, 1906 Chestnut St.; T. Spotuas Burwell, 2208 Fitzwater St.; William T. Dempsey, 2606 N. Fifth St.; Leslie F. Mulford, 6300 Sherwood Road; John G. Sabol, 2565 E. Norris St.; Max Abramavitz, 165 W. Susquehanna St.; Charles J. Watson, 5617 N. Third St.; Philip Weinstein, 539 W. Olney Ave.; Joseph D. Lehman, 4257 Main St. (Manayunk) Philadelphia. *Removal*—James G. Cumming from Philadelphia to Department of Health, District Bldg., Washington, D. C.

TIOGA: *Death*—Henry C. Harkness, Mansfield (Chicago Homeo. Med. Coll. '96), July 17, aged 53.

WASHINGTON: *New Member*—Charles J. D. McVeigh, Marianna.

WESTMORELAND: *New Members*—Charles P. Snyder, Manor; Lawrence L. Blackburn, 405 S. Maple St., Greensburg; DeVillo O. Todd, 432 Cavitte Ave., Trafford. *Reinstated Members*—Arthur D. Barnhart, Youngwood; David R. Shepler, West Newton; James F. Trimble, John S. Crawford, Greensburg.

YORK: *New Members*—Cletus E. McGuigan, 437 So. George St., York; Floyd C. Lepperd, 10 York St., Hanover.

CORRESPONDENCE

Philadelphia, Pa., September 11, 1925.

Editor, ATLANTIC MEDICAL JOURNAL,
Harrisburg, Pa.

Dear Sir:

It has been brought to my attention that certain county societies have been derelict in the matter of proper preparation for visiting speakers. That is, in some cases, lanterns, although requested in ample time, have not been supplied. Meetings have been arranged in halls where darkness could not be obtained to allow the lantern to function properly. In other instances groups of visiting essayists have not been given time to read their papers, and occasionally one or two have omitted carefully prepared essays.

I feel sure that it is necessary only to call the attention of the various county societies to the responsibility involved, when busy men are asked to take long trips and read scientific papers, that every facility should be offered in common courtesy to these visitors.

Yours very truly,
J. NORMAN HENRY.

Hyperthyroidism has been all but conquered. Hypersecretion of the gastric juice and chronic gastric ulcer have all but defeated the surgeon and the physician.—*Crile.*

In general, the incidence of both peptic ulcer and hyperthyroidism is highest in those men and women of the white race who are carrying the burden of civilization.—*Crile.*

COMMERCIALIZED ROENTGENOLOGY

We have nothing but the highest praise and regard for those who are engaged in radiographic work and x-ray diagnosis. This specialty has contributed much to the advancement of our diagnostic acumen and has enhanced our therapy. The workers and students in our x-ray laboratories are outstanding leaders in modern medicine.

Unfortunately, however, there has crept in on the sidelines a coterie of so-called roentgenologists who are stooping to commercialized activities and who are endeavoring to do so-called x-ray work for fees only. Any one can come in and have a radiographic film made, and receive a written report or opinion, provided he can pay the fee. The individual receives a report, which in many instances says nothing and is merely a grouping of words and phrases. The x-ray man pockets the fee. It is regrettable that even some of our better men engage in such practices, which reflect simon-pure commercialism. The practice seems to be extending.

It is quite apparent that our radiological societies might well give thought and action to this type of practice. Radiological organizations must assume a definite stand and aggressively seek to terminate this class of work. There is but one way and that is to limit their radiographic work to referred cases, coming from bona fide physicians or surgeons. Secondly, to refrain from giving films or reports to patients and to send reports only to attending or designated doctors. It is urged that such become a universal procedure and that doctors cease referring work to the x-ray man who will take a picture for every Tom, Dick, or Harry who may come to his x-ray laboratory. Commercialization of roentgenology must be stopped.—*The Jour. Mich. State Med. Soc., July, 1925.*

A SUGGESTED ANALOGY BETWEEN HYPERTHYROIDISM AND GASTRIC ULCER

(1) All patients with acute gastric or duodenal ulcers are referred first to the medical department for treatment and management. (2) If medical relief does not appear within two weeks, the patient is referred to the surgical department. (3) In case of duodenal ulcer, Finney's pyloroplasty is used if local conditions such as adhesions permit; in suitable cases a gastroduodenostomy is made; in all others, a posterior gastroenterostomy. (4) In cases of calloused gastric ulcer, and of peptic ulcer following gastro-enterostomy for duodenal ulcer, a wide resection of the stomach including the pylorus is made. This produces a permanent reduction in gastric secretion, and up to the present time, has been followed by better clinical results than have heretofore been secured.—Geo. W. Crile, *Wis. Med. Jr.,* July, 1925.

REGIONAL ANESTHESIA IN UROLOGICAL SURGERY

(1) Local or regional anesthesia is practicable in all parts of the urinary tract. (2) It is an absolute necessity in cases of reduced functional activity or urinary obstruction. (3) Its use requires considerable coöperation on the part of the patient, and for this reason it is not well adapted to the nervous type, or in children. (4) With careful administration, there is practically no postoperative shock or signs of toxemia. (5) Last and by no means least important, is the fact that it lowers the postoperative mortality.—W. S. Pugh, *Med. Jour. and Rec.,* July 1, 1925.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK
Editor
Philadelphia, Pa.

COUNTY REPORTS

The Woman's Auxiliaries throughout the State were duly notified of the Diamond Jubilee number, and every effort was made to have reports from all organized counties; but the summer vacation delayed several returns until too late for publication. Much regret was felt over the fact that neither Philadelphia nor Pittsburgh, the largest centers, were mentioned. This was entirely due to circumstances, and their full reports appear in this number.

ALLEGHENY COUNTY

Allegheny County organized its Auxiliary February, 1925, adopted a constitution and by-laws, elected its officers, and filled its various working committees immediately after its organization meeting.

The first meeting was an enthusiastic one, with about two hundred women present. The executive board met and outlined the immediate work to be done, which was a campaign for members. The second meeting was held in May, and was a subscription luncheon. At both meetings there were good speakers from the membership of the Allegheny County Medical Society, good music and readings, and every one enjoyed getting acquainted. Delegates were appointed to the National meeting held in Atlantic City the last of May. There is at present a paid-up membership of 221, and an honorary membership of 2.

A board meeting is to be held about the middle of September, and a general meeting the last week of that month, when delegates to the Harrisburg meeting will be appointed. As many as possible will be urged to go as members-at-large.

The officers are: President, Mrs. James I. Johnston; first vice-president, Mrs. William Anderson; second vice-president, Mrs. John L. McBride; recording secretary, Mrs. Thomas McC. Mabon; corresponding secretary, Mrs. Charles A. Orr; treasurer, Mrs. A. B. F. Morris; directors, Mrs. Walter F. Donaldson, Mrs. E. B. Heckel. Mrs. J. M. Thorne, Dr. Luba Robin Goldsmith, and Mrs. William McCracken; board, Mrs. J. F. McCullough, Mrs. R. J. Behan, Mrs. B. H. Patterson, Mrs. William M. Beach, Mrs. C. J. Vaux, and Mrs. J. Donald Iams.

CAMBRIA COUNTY

The Woman's Auxiliary of Cambria County was organized August 13, with 25 members and the following officers: President, Mrs. G. S. Rice, Ebensburg; first vice-president, Mrs. S. A. Brallier, Conemaugh; second vice-president, Mrs. E. T. Ealy, Barnesboro; secretary, Mrs. Charles M. Schultz, Johnstown; treasurer, Mrs. H. C. Prideaux, Cresson.

A meeting will be held at Berlin's Cafeteria, Johnstown, on September 10, when a constitution and by-laws will be adopted, and plans formulated for activities during the winter months in conjunction with the State Auxiliary.

PHILADELPHIA COUNTY

The organization of the Woman's Auxiliary of the Philadelphia County Medical Society dates from a meeting of the wives, daughters, sisters, and mothers of the members of the Philadelphia County Medical Society, held in the Bellevue-Stratford Hotel, Philadelphia, where luncheon was served, on Friday, December 19, 1924.

The meeting was called by Mrs. W. Wayne Babcock, State Organizer for the American Medical Association, and Mrs. William E. Parke, President of the Woman's Auxiliary of the Medical Society of the State of Pennsylvania. At this meeting the aims and objects of such an auxiliary were discussed, and it was decided to organize.

On March 25, 1925, at the Women's City Club Rooms, the Wellington, Nineteenth and Walnut Streets, a second meeting was held. Dr. Arthur C. Morgan, president of the Philadelphia County Medical Society, presided at the opening of the meeting. Mrs. Walter Hancock was appointed as temporary chairman, and Mr. Franklin M. Crispin as secretary of the meeting.

Mrs. L. Webster Fox was then elected as permanent chairman, and the organization of the Woman's Auxiliary of the Philadelphia County Medical Society was formally ratified.

A nominating committee was appointed by the chairman, and upon its recommendation, the following officers were elected to serve until March 25, 1926: Honorary chairman, Mrs. Rudolph Blankenburg; president, Mrs. L. Webster Fox; first vice-president, Mrs. Herman B. Allyn; second vice-president, Mrs. John R. Minehart; third vice-president, Mrs. George A. Knowles; corresponding secretary, Mrs. John M. Fisher; recording secretary, Mrs. Charles A. E. Codman; treasurer, Mrs. P. Brooke Bland.

At this meeting, the president, Mrs. L. Webster Fox, presided.

Among those present were: Mrs. F. P. Gegenbach, of Denver, Colo., acting president of the Woman's Auxiliary of the American Medical Association, and Mrs. William E. Parke, president of the Woman's Auxiliary of the Medical Society of the State of Pennsylvania.

The third meeting of the Philadelphia Auxiliary was held September 17, at the Bellevue-Stratford. In the absence of the president, the first vice-president, Mrs. Herman Allyn, presided. Dr. George E. Pfahler addressed the meeting on the work of cancer control, describing what is being done and how the auxiliary can help. After such an address, one need no longer wonder what there is for the auxiliary to do. A second topic most opportunely selected at this time of year was dealt with by Dr. Charles N. Sturtevant—children, and what is being done for their welfare. He urged the women to accept positions on the boards of the various child-welfare agencies.

Following these talks, the regular business of the auxiliary was introduced. The constitution and by-laws were adopted, without change, as presented by the constitutional committee, which had worked faithfully and

frequently under the guidance of Mrs. Walter Hancock. Constitutions governing auxiliaries throughout the country were studied and applied to the situation in the East, with the result printed below, which may be used as a working model for the counties still unorganized. Much credit should be given to Allegheny County, whose constitution was most carefully and legally developed.

Mrs. William E. Parke, State president, told of the plans which the Dauphin County Auxiliary had made for the Harrisburg meeting, and urged as many women as possible to attend.

CONSTITUTION AND BY-LAWS
OF
THE WOMAN'S AUXILIARY
OF
THE PHILADELPHIA COUNTY MEDICAL SOCIETY

ARTICLE I

The name of this Association shall be THE WOMAN'S AUXILIARY OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

ARTICLE II

The object of the Auxiliary shall be to assist the Philadelphia County Medical Society in the advancement of the prevention of disease, to aid in securing better Medical Legislation, and to do such other supplemental work as shall be determined upon from time to time by the Medical Society.

ARTICLE III

SECTION 1. The Auxiliary shall consist of Active and Honorary members. Wives, mothers, daughters, and sisters of members of the Philadelphia County Medical Society in good standing shall be eligible.

SECTION 2. The name of an applicant for membership must be presented to the Membership Committee, and if the applicant is found eligible, she may become a member by presenting her name to the Recording Secretary and paying the dues, whereupon her name will be published in the *Weekly Roster*.

SECTION 3. The title of Honorary Member shall be conferred upon a widow of a deceased member of the Philadelphia County Medical Society who, at his death, was in good standing in the Society, upon presentation of her name to the Recording Secretary by a member. The title of Honorary Member shall carry with it none of the obligations of the Auxiliary, but shall entitle the holder to all the privileges except that of holding office.

SECTION 4. Any member desiring to resign shall present her resignation in writing to the Corresponding Secretary, who shall present it to the Executive Board for action. No member's resignation shall be accepted whose dues are in arrears.

ARTICLE IV

SECTION 1. The Officers of the Auxiliary shall be a President, a First Vice-President, a Second Vice-President, a Third Vice-President, a Corresponding Secretary, a Recording Secretary, a Treasurer, and six (6) Directors. These officers shall perform the duties prescribed by these By-Laws and by Robert's Rules of Order.

SECTION 2. At its regular meeting in February, a Nominating Committee of five members shall be appointed by the President. It shall be the duty of this committee to nominate candidates for the offices to be filled at the annual meeting.

SECTION 3. All officers, except the Directors, shall be elected by the Auxiliary to serve for one year.

SECTION 4. Three Directors shall be elected annually, for a term of two years each.

SECTION 5. A vacancy occurring in any office shall be filled by the Board of Directors until the next annual election.

SECTION 6. Regular elections for officers shall be held at the business meeting in March of each year. The term of all officers shall begin on the first day of the month succeeding their election.

ARTICLE V

SECTION 1. Stated meetings of the Auxiliary shall be held on the second Thursday of each month, from September to June inclusive, at the hour fixed by the Board of Directors.

SECTION 2. Special meetings may be called by the President, and must be called by her when requested in writing by twelve active members, for such purpose and at such date and hour as may be designated. At least three days' notice of a special meeting must be given to the members.

ARTICLE VI

SECTION 1. The officers of the Auxiliary, Directors and the Chairmen of Standing Committees shall constitute the Executive Board.

SECTION 2. The Executive Board shall have general supervision of the affairs of the Auxiliary.

SECTION 3. Regular meetings of the Executive Board shall be held once a month from September to May inclusive. Special meetings may be called by the President and shall be called upon the request of five members of the Board.

SECTION 4. Five members of the Board shall constitute a quorum.

ARTICLE VII

SECTION 1. Active members shall pay three dollars per annum, due April first.

SECTION 2. Members elected previous to October, 1925, shall be charter members, and pay the annual dues of three dollars; after that date, each new member will pay in addition an initiation fee of two dollars.

SECTION 3. If dues are not paid by the first day of May, the Secretary shall send notice to the member in such arrears, with a transcript of this section, and if not paid on or before the twenty-eighth day of October, the member shall forfeit her membership.

ARTICLE VIII

SECTION 1. The President shall appoint annually the Chairmen of the following Standing Committees: Program, Membership, Hospitality, Legislative, Public Health, Publicity, and Finance.

ARTICLE IX

These By-Laws may be amended at any regular meeting of the Auxiliary by a two-thirds vote; provided, the amendment has been submitted in writing at the previous regular meeting.

Three of the chief reasons why children die from diphtheria are: (1) *Failure by parents to call a physician on the first day of illness;* (2) *Delay in administering antitoxin while awaiting the result of a culture;* (3) *Subcutaneous administration of antitoxin.* This method should not be used except for prophylactic purposes. For therapeutic purposes antitoxin should be administered *intravenously or intramuscularly.—N. Y. State Dept. Health, June, 1925.*

COUNTY MEDICAL SOCIETIES

REPORTERS OF COUNTY SOCIETIES

ADAMS—James P. Dalbey, M.D., Gettysburg.
ALLEGHENY—Lester Hollander, M.D., Pittsburgh.
ARMSTRONG—Jay B. F. Wyant, M.D., Kittanning.
BEAVER—Francis H. McCaskey, M.D., Rochester.
BEDFORD—N. A. Timmons, M.D., Bedford.
BERKS—Clara Shetter-Keiser, M.D., Reading.
BLAIR—James S. Taylor, M.D., Altoona.
BRADFORD—Stanley D. Conklin, M.D., Sayre.
BUCKS—Anthony F. Myers, M.D., Blooming Glen.
BUTLER—L. Leo Doane, M.D., Butler.
CAMERIA—Horace B. Anderson, M.D., Johnstown.
CARBON—Jacob A. Trexler, M.D., Lehighton.
CENTER—James L. Seibert, M.D., Bellefonte.
CHESTER—J. A. Perkins, M.D., Coatesville.
CLARION—Hilton A. Wick, M.D., New Bethlehem.
CLEARFIELD—George D. Fussell, M.D., Clearfield.
CLINTON—R. B. Watson, M.D., Lock Haven.
COLUMBIA—C. B. Yost, M.D., Bloomsburg.
CRAWFORD—John W. Hazen, M.D., Meadville.
CUMBERLAND—Calvin R. Rickenbaugh, M.D., Carlisle.
DAUPHIN—W. Minster Kunkel, M.D., Harrisburg.
DELAWARE—George L. Armitage, M.D., Chester.
ELK—Perry O. Hall, M.D., Ridgway.
ERIE—Anna M. Schrade, M.D., Erie.
FAYETTE—Robert J. Billings, M.D., Uniontown.
FRANKLIN—Samuel D. Shull, M.D., Chambersburg.
GREENE—Robert W. Norris, M.D., Waynesburg.
HUNTINGDON—John M. Beck, M.D., Alexandria.
INDIANA—Charles E. Rink, M.D., Indiana.
JEFFERSON—W. A. Hill, M.D., Reynoldsville.
JUNIATA—Brady F. Long, M.D., Mifflin.
LACKAWANNA—G. A. Clark, M.D., Scranton.
LANCASTER—J. J. Sullivan, M.D., Lancaster.
LAWRENCE—William A. Womer, M.D., New Castle.
LEBANON—W. Horace Means, M.D., Lebanon.
LEHIGH—Maurice Kemp, M.D., Allentown.
LUZERNE—William J. Davis, M.D., Wilkes-Barre.
LYCOMING—Wesley F. Kunkle, M.D., Williamsport.
MCKEAN—Francis DeCaria, M.D., Bradford.
MERCER—M. Edith MacBride, M.D., Sharon.
MIFFLIN—F. A. Rupp, M.D., Lewistown.
MONROE—Walter L. Angle, M.D., Stroudsburg.
MONTGOMERY—John C. Simpson, M.D., Norristown.
MONTOUR—John H. Sandel, M.D., Danville.
NORTHAMPTON—Authur B. Hamilton, M.D., Bethlehem.
NORTHUMBERLAND—Charles H. Swenk, M.D., Sunbury.
PERRY—A. R. Johnson, M.D., New Bloomfield.
PHILADELPHIA—Franklin M. Crispin, Philadelphia.
POTTER—Ross H. Jones, M.D., Coudersport.
SCHUYLKILL—Arthur B. Fleming, M.D., Tamaqua.
SNYDER—John O. Wagner, M.D., Beaver Springs.
SOMERSET—H. Clay McKinley, M.D., Meyersdale.
SULLIVAN—P. G. Biddle, M.D., Dushore.
SUSQUEHANNA—Dever J. Peck, M.D., Susquehanna.
TIOGA—John H. Doane, M.D., Mansfield.
UNION—Oliver W. H. Glover, M.D., Laurelton.
VENANGO—John F. Davis, M.D., Oil City.
WARREN—M. V. Ball, M.D., Warren.
WASHINGTON—Charles C. Cracraft, M.D., Claysville.
WAYNE—Hugh Stevenson, III, M.D., Waymart.
WESTMORELAND—ELLSMER L. PIPER, M.D., Export.
WYOMING—Herbert L. McKown, M.D., Tunkhannock.
YORK—W. Newton Long, M.D., York.

OCTOBER, 1925

COUNTY SOCIETY REPORTS

DAUPHIN—SEPTEMBER

The regular September meeting of the Dauphin County Medical Society was addressed by Dr. Robert H. Ivy, of the Postgraduate School of the University of Pennsylvania, on the subject of "The Surgery of Facial Deformities." An abstract follows:

The modern treatment of acquired and congenital deformities of the face frequently ascribed to the period following the last war, actually was known and practiced one hundred years ago.

Whatever operative plan is proposed, certain fundamental principles must be observed; namely, eradication of all signs of infection, hands off until maximum scar tissue has been reached, and rigid aseptic technic. Corrective operations are usually multiple except those for depressed scar. Defects due to loss of fat are corrected by contiguous structures, flaps, or free grafts.

There have been, however, some notable advances since the war. Large flaps are employed from greater distances than formerly, tubing of the pedicle frequently insures an otherwise doubtfully viable tissue, the delayed flap is another recourse to secure adequate blood supply, as is also the bipedicle collar flap.

Lantern slides of cases depicted the conditions before, during, and after treatment, and illustrated the use of plaster models of the face and the method of patterning the proposed flaps.

A large audience enjoyed Dr. Ivy's interesting presentation of this absorbing subject.

W. M. KUNKEL, M.D., Reporter.

ERIE—SEPTEMBER

The Erie County Medical Society met September 1, Dr. J. Burket Howe presiding. The program was a symposium on headache by three members of the society. Dr. Owen Shreve spoke on "Headache as Observed and Corrected by the Oculist." Dr. Ford Heard spoke from the standpoint of the nose and throat specialist, and Dr. J. Swain Irwin spoke from the neurologist's angle.

Dr. Shreve said he would speak particularly on eye strain. The location of the pain, the time of day, and the conditions under which the pain occurs may aid a great deal in determining before examination whether headaches are ocular in origin. Of all headaches, it has been considered that the ocular form comprises 40%. Seventy-five per cent of all bilateral and frontal headaches are due to eyestrain. The ciliary and other eye muscles always endeavor to bring about effective vision, and in abnormal states of refraction this constant effort results in symptoms prominent among which is headache.

The course has been described thus: The attempts at good vision irritate the third nuclei, also the center of the fifth nerve. The end filaments of the latter on the forehead suffer, so that there is not only a peripheral aching noticed by the patient but a duller pain referred to the eyeballs and the parts behind them. In the very chronic cases, also, the whole front of the head aches. One who is considered an authority says: "The pains of eyestrain are invariably bilateral." In the order of frequency, the location is supra-orbital, deep orbital, fronto-occipital and temporal. A unilateral supra-orbital headache or a hemicrania of any kind is not commonly due to eyestrain. Many headaches of ocular origin are from imbalance of the extrinsic muscles. One would suspect this in shopping headaches. Usually a person with unusually good distance vision, or who had it before old sight developed, is the one most liable to ocular headache. A careful refraction under a mydriatic to balance the eyes is the first means of correcting such muscular imbalance.

Other causes of ocular headaches are disease of the eyelids, glaucoma, iritis, and often a foreign body im-

bedded in the cornea. It has been observed that sometimes in sick headache there is an increase in tension of the eyes, as in a glaucomatous attack, and that the instillation of eserin will relieve a sick headache of this character. He has seen true acute glaucoma mistaken for sick headache. The origin of the latter still remains obscure. It occurs in people of neuropathic constitution, and is often unilateral, with nausea, vomiting, and many visual phenomena. It belongs to the neurologist, but one load may often be removed from the system by proper refraction.

Dr. Irwin said that the head is the most important localizing center for pain, for it seems that here all the aches and ills of the human body converge to bring suffering to the unfortunate individual, whether the cause be intracranial, extracranial, acute, or chronic. All ingoing pathways conveying sensory impressions from the periphery are finally terminated in the cerebrum. It is the chronicity of the head pain which brings it to the neurologist. Headache may be divided into organic and functional, extracranial and intracranial. The extracranial are due in most part to local causes, such as contraction or indurations of the local attached muscles. The occipito-frontalis and deep cervical muscles are the ones usually involved. In fact, this is the most frequent cause of chronic headache and can be diagnosed by palpating the indurated muscles which feel like enlarged lymph glands. These indurations compress the great occipital, small occipital, and great auricular nerves, and cause a pressure neuritis which in turn transmits the pain to the vertex. Pressure upon these areas will invoke and increase the intensity of the pain complained of. Other extracranial causes are periostitis of the pericranium, which is usually localized and increased upon pressure. This type is usually syphilitic.

In the extracranial group we have what are known as projected, reflex, and referred pain, all of which are due to irritation and transmission along the nerves from the periphery to the brain.

In the intracranial group, the most frequent are diseases of the meninges as found in the various forms of meningitis. New growths may interfere with the exit of the intraventricular fluid. Other causes of increase of intracranial pressure are diffuse meningitis, intracranial abscess, gummata, tumors, and adhesions.

Diseases of the vascular system may painfully increase intracranial pressure in: arterial hyperemia, venous hyperemia, toxic anemia. Hemiplegia and cerebral hemorrhage are often preceded by headache. Pachymeningitis associated with small hemorrhage is rather common in old people, and is the most frequent acute inflammatory cause.

Of the rarer forms, we should be on the watch for acute epidemic cerebrospinal meningitis, encephalitis lethargica, and venous thrombosis.

In pyogenic, tubercular, and syphilic meningitis the symptoms are of longer duration, increasing in severity with the presence elsewhere of the signs of primary infection. Here, the neurological, plus laboratory and eye studies, are of the utmost importance. In migraine, the pale face, injected conjunctiva, and contracted pupils lead to a diagnosis. Nearly all other forms of head pain have dilated pupils.

Another obscure cause of headache is found in changes in the size and shape of the cella. The pituitary, which is in the cella, is subject to varying degrees of expansion and contraction by its increase or decrease in blood supply. This is a not uncommon cause of chronic head pain, especially the periodic type so frequent in the female. Appropriate x-ray studies associated with a therapeutic test would be in order.

In regard to the psychosis and neurosis, there can be grave progressive diseases of the spinal cord and peripheral nervous system with alterations of the higher psychical functions, without the slightest complaint of pain in the head. Therefore, in a patient suffering severe, agonizing pain referred to the vertex, one should think of clavus hystericus, and if unassociated with any other evidence of intracranial disease, the very intensity of such pain should suggest: (a) neurasthenia, the chief symptom of which would be fatigue; (b) hysteria, the chief symptom of which would be perverted sensibility, group anesthesia to touch, later to pain; (c) psychasthenia, the chief symptoms of which would be pathologic fear or anxiety, obsessions, and so on.

In closing, your attention is called to a few important tests, the appropriate interpretation of which will aid greatly in arriving at a diagnosis. These tests are: (1) palpation of the insertion of the muscles of the neck; (2) examination of the superficial and deep reflexes to detect organic diseases of the nervous system; (3) thorough examination of the eyes and eye grounds; (4) temperature record; (5) blood-pressure measurement; (6) urine and blood studies; (7) examination of nose and accessory sinuses; (8) studies of the spinal fluid; (9) history of psychoneurosis.

Dr. Heard said many headaches are but local manifestations of general conditions, so that those headaches that are strictly within the field of the nose and throat specialist can be classified under a rather small list: (a) brain abscess from any head infection; (b) vacuum sinus pain, frontal, over eyes; (c) turbinal pressure, frontal above nose, worse on stooping; (d) sphenoid sinus pain, irregular and inconstant; (e) terminal neuralgias from the first division of the fifth nerve and irritations of the second division or even the third referred to the first division; (f) toxic headaches from tonsil involvement, often diagnosed as "flu"; (g) the more or less constant distribution pain in Meckel's-ganglion irritation, not always locally caused, however; (h) dental affections with pain reference to the first division of the fifth all invite our investigations; (i) the day pain of frontal-sinus infections; (j) the night pain and general face pain of antral infections (75% referred to the first division); (k) the bridge-of-the-nose and eye discomfort in ethmoid infections, usually associated with some nasal discharge and disturbance of sense of smell.

Drops and pills avail but little unless the cause can be determined and the disturbing pathology either removed or decreased.

Anna M. Schrade, M. D., Reporter.

FAYETTE—AUGUST-SEPTEMBER

The August meeting of the Fayette County Medical Society was more largely attended than any other August meeting in the history of the organization. The attraction of the evening was an address by Dr. Jesse O. Arnold, Clinical Professor of Obstetrics in Temple University, Philadelphia, on the subject of "The Challenge of Higher Ideals in Practical Obstetrics." Dr. Arnold held the undivided attention of the thirty-five members present during the entire evening. The practical aspect of his subject, the clearness with which he presented his theme, and the charm of its literary dress won for him well-merited commendation from every one present. The Doctor is a native of Fayette County, and before the close of the meeting, was elected an honorary member of the county society.

His complete address was published as a supplement to the official publication of the society.

The September meeting was a joint conference of the censorial district composed of Bedford, Westmoreland, Somerset, and Fayette Counties. Bedford was represented by one member, Somerset sent six of its representative physicians, Westmoreland contributed eleven of its leading doctors, and Fayette responded with over forty members. The meeting convened at 2:30 o'clock, in Uniontown, with Dr. R. H. Jeffrey, president of the Fayette County Society, in the chair.

The program of the afternoon dealt with problems that are interesting and vital to the entire district. The discussions upon the several addresses that were presented revealed the fact that the progressive physicians of this censorial district are thinking in larger terms than simply the dispensing of pills or writing of prescriptions.

The presence of Dr. Litchfield, the councilor for the district, contributed to the pleasure and dignity of the occasion. One member present truthfully remarked that "we need more meetings of this type."

Harry J. Bell, M.D., Reporter.

LUZERNE—SEPTEMBER

A regular meeting of the Luzerne County Medical Society was held September 2, at 8:30 p. m., with the president, Dr. S. M. Wolf, in the chair. There were thirty members and five visitors present. Dr. U. D. Rumbaugh read a very interesting paper on "Toxemia of Pregnancy."

At the regular meeting held September 16th, President Wolf presided, and there were fifty-four members and three visitors present. The auditorium of the medical building had been refurnished with new mahogany chairs which are very comfortable, and with new rugs on the floor, made an attractive and comfortable meeting room. There were seven new members elected at this meeting.

Dr. Donald Guthrie, of Sayre, was the essayist of the evening, and spoke on "The Use of Iodin in the Treatment of Goiter." This is a very timely subject, and as presented by Dr. Guthrie, was very instructive. It is well to call attention to this form of treatment, for it has been much exploited in the past few years. On the other hand, the essayist cautioned that without discrimination much harm may be done, for in some cases treatment by iodin may be adding insult to injury and may be the cause of exciting into activity a condition that otherwise might have been quiet and harmless. Dr. Guthrie stated that during puberty and young adult life, the majority of goiter cases are of the simple type, and iodin has given good results. It has been demonstrated that many cases of exophthalmic type can be improved as though by magic from the use of five to ten minims of Lugol's solution three times a day over a period of one or two weeks—so much improved that surgery will do the rest. He cautioned against the giving of iodin in the adenomatous type. He studied thirty cases of this type in which iodin was given, and in all but two, the symptoms were exaggerated and the iodin treatment had to be stopped. He advised that goiter patients to whom iodin has been given should be required to report later, so that it may be determined whether the treatment should be continued.

W. J. Davis, M.D., Reporter.

The dreams of the folks who are awake come true more often than the dreams of those who are asleep.—*Anon.*

PENNSYLVANIA NEWS ITEMS

DEATHS

Noah Ray Myers, M.D., Wanamie; University of Pittsburgh School of Medicine, 1892; aged 66; August 13, of asthma.

John L. Griffiths, M.D., Taylor; University of Vermont College of Medicine, Burlington, 1884; aged 79; July 30.

Smith Graves Beatty, M.D., Kane; College of Physicians and Surgeons, Baltimore, 1882; aged 71; May 29, of heart disease.

Daniel P. Blose, M.D., McKeesport; University of Pennsylvania School of Medicine, Philadelphia, 1900; aged 47; August 2.

James B. Buckley, M.D., Philadelphia; Cleveland-Pulte Medical College, 1912; aged 45; September 10, of heart disease.

John Nelson Sprowls, M.D., Claysville; Jefferson Medical College, Philadelphia, 1877; September 11; aged 73 years.

George W. Marter, M.D., Philadelphia; Hahnemann Medical College, 1878; also a member of the Philadelphia bar; September 8; aged 76.

John R. Pratt, M.D., Lancaster, Ontario County, N. Y.; the oldest alumnus of Jefferson Medical College, class of 1852; recently; aged 99 years.

Z. T. Penhorwood, M.D., of Greenville, Ohio, chief resident physician of the Germantown Hospital, Philadelphia; September 14, following an operation.

A. Victor Ohlson, M.D., Kane; University of Pennsylvania School of Medicine, Philadelphia, 1922; aged 29; August 22, of cardiac thrombosis.

Edward Roberts Stone, M.D., Philadelphia; Jefferson Medical College of Philadelphia, 1872; aged 74; September 9, of heart disease, while walking in Fairmount Park.

Henry Lane Snodgrass, M.D., Buffalo; University of Michigan Medical School, Ann Arbor, 1876; aged 75; August 15, at the Washington (Pa.) Hospital, following an operation.

George D. Bagnall, M.D., Stoneboro; College of Physicians and Surgeons, Chicago, 1890; aged 59; August 7, at a hospital in Mercer, of complications following an appendectomy.

Truman Auge, M.D., Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1892; medical inspector for the Bureau of Health for fourteen years; aged 54; August 30.

Isidore Solis-Cohen, son of Dr. J. Solis-Cohen, and brother of Dr. Myer Solis-Cohen, of Philadelphia, after an illness of two years, shot himself while temporarily deranged, August 26.

Mark Leon Bailey, M.D., Carbondale; Medical Department of the University of the City of New York, 1889; formerly on the staff of the Carbondale City Hospital; aged 60; August 1, at Hampton, N. J.

Frank B. Crowe, M.D., Philadelphia; Jefferson Medical College of Philadelphia, 1902; formerly chief resident physician at St. Joseph's Hospital, Reading; aged 48; September 12, at the National Stomach Hospital.

Elias K. Boltz, M.D., Lebanon, formerly of Philadelphia; Jefferson Medical College of Philadelphia, 1896; aged 54; August 28, of heart disease. The attack came just an hour before he was to leave with Mrs. Boltz for Nova Scotia for his health.

Louis Starr, M.D., Dinard, France, formerly of Philadelphia, and an authority on children's diseases; University of Pennsylvania Medical School, Philadel-

phia, 1870; former instructor in physiology and therapeutics at the University of Pennsylvania; lecturer on symptomatology from 1877 to 1879, and on diseases of children from 1880 to 1884, when he was elected clinical professor of diseases of children at the University; Fellow of many societies and editor of a number of books; aged 76; September 12.

BIRTHS

To DR. AND MRS. GEORGE H. HESS, of Uniontown, a son.

To DR. AND MRS. HORACE KINZER, of Lancaster, a son, September 1.

To DR. AND MRS. ARTHUR B. BLACKBURN, of Latrobe, a daughter, June 25.

MARRIAGES

DR. GIOVANNI P. PRIOLETTI, New Castle, and Miss Ada Nerone, of Youngstown, Ohio, August 6.

DR. JAMES KANE MCSHANE and Miss Marie Greenfield, both of Philadelphia, on September 15.

DR. JOHN J. BURNS, chief surgeon at the Misericordia Hospital, Philadelphia, and Miss Anna McLean, of the same city, September 10.

DR. ANDREW BLAIR, former resident of Carlisle (now interning in City Hospital, Cleveland, Ohio), and Miss Grace I. Watkins, of Meriden, Conn., who for the past two years has been connected with the Orthopedic Center of Cleveland, Ohio, September 5.

ITEMS

DR. W. HESS LEFEVER, of Lancaster, returned from Europe September 1.

DR. DON C. LINDLEY, of New Castle, recently returned from a trip abroad.

DR. SAMUEL E. HIBBS, of Uniontown, is spending his vacation in Florida.

DR. F. T. NASON is the head of the new bank formed at McKeesport by a merger.

DR. JOHN L. ATLEE and family, of Lancaster, spent the summer at Sea Girt, N. J.

DR. J. L. MANSUY, of Ralston, recently returned from a trip to Miami, Florida.

DR. AND MRS. C. E. ALLISON, of Newberry, have been enjoying a fishing trip in Canada.

DR. JOHN FOSTER, of New Castle, has returned home after spending several months abroad.

DR. JAMES H. NIXON and family, of Uledi, spent a pleasant vacation on the shores of Lake Erie.

DR. W. H. ROBBINS, of Vanderbilt, has removed from that location to Martins Ferry, W. Va.

DR. GERALD D. BLISS, of Altoona, has returned from a trip to England and France.

DR. J. J. MCHUGH, of Parsons, is touring Europe and attending clinics in London.

DR. J. P. MACLAY, Chambersburg, is the Republican nominee for Franklin County Treasurer.

DR. AND MRS. HERBERT P. HASKIN, of Williamsport, have returned from a recent European trip.

DR. JOHN A. KLUMP, of Williamsport, is spending some time at Split Rock, Wyoming, hunting and fishing.

DR. EDGAR J. STEIN and family, of Lancaster, have gone to Florida for an indefinite period.

DR. CLARENCE R. FARMER and family, of Lancaster, have returned from a motor trip through the South.

DR. F. E. ROUSE and family, of Williamsport, are visiting Mrs. Rouse's former home at Jacksonville, Ill.

DR. ANNE YOUNG has removed to 822 N. Forty-first St., Philadelphia, in order to take over the practice of the late Dr. Wilford O. Higgate.

DR. SIMON H. BAUM, of Uniontown, who has been a patient in the Uniontown Hospital, is rapidly recovering.

THIRTEEN TIMES as many candidates applied this year for admission to Jefferson Medical College as could be admitted.

DR. EFFIE B. DUNLAP, of Ligonier, has returned home from a six weeks' trip through western Canada and California.

DR. EDWARD L. BORTZ, of Greensburg, sailed recently for Vienna, where he will spend a year in the study of pathology.

DRS. HARVEY F. SMITH and JOHN B. MCALISTER, of Harrisburg, have returned from a visit to the Mayo Clinic in Rochester, Minn.

DR. WALTER M. YOST and family, of Rochester, have returned from Europe, where Dr. Yost attended some of the eye clinics.

DR. CLARA SHETTER-KEISER, of Reading, visited the St. Lawrence River, Lake Champlain, and Lake George on her vacation.

DR. AND MRS. C. K. KISTLER, of Reading, made an extended tour of Mediterranean countries and Europe during the summer.

DR. AND MRS. RAYMOND J. BOWER, of Williamsport, left on September 6 on a two-thousand-mile automobile trip through Canada.

DR. ERNEST J. HOOVER, of Altoona, has returned from the Canadian woods, where he enjoyed a month of hunting and fishing.

DR. AND MRS. F. O. BRYANT, of Chester, have returned from Florida, where they were accompanied by their daughter, Miss Elizabeth Bryant.

DR. AND MRS. G. ORAM RING, of Philadelphia, returned recently on the Majestic after a summer spent in motoring through Europe.

DR. AND MRS. ALFRED HEINEBERG and daughter, of Philadelphia, have returned from their annual vacation in Europe. Dr. Heineberg has resumed his practice.

DR. LEVI J. HAMMOND, of Philadelphia, narrowly escaped injury recently when a police bandit-chasing automobile collided with the car in which he was riding.

DR. ALFRED C. WOOD, of Philadelphia, returned from Europe on August 31, at which time he joined Mrs. Wood and their son at their cottage in Chelsea, N. J.

DR. SIDNEY J. SONDHEIM, of Reading, visited the clinics of central Europe during the summer, spending a considerable portion of his time in Vienna and Berlin.

DR. AND MRS. GEORGE K. LEVAN, and son John, of Reading, spent two months in Europe during the summer, visiting countries of the West Mediterranean and Norway.

DR. WM. STEWART RUSSELL, of Harrisburg, is in Philadelphia, doing graduate work in urology at the Hospital and Graduate School of Medicine of the University of Pennsylvania.

DR. AND MRS. GEORGE WOODWARD and their daughter, Miss Gertrude H. Woodward, of Chestnut Hill, have returned from Jackson's Hole, Wyoming, where they spent the summer on their ranch.

AMONG THE MEMBERS of the Fayette County Medical Society who vacationed in Canada during the summer, were Dr. W. A. McHugh and family, Dr. D. E. Lowe and family, and Dr. W. J. Bailey.

DR. ANTHONY F. MYERS, Secretary-Treasurer of the Bucks County Medical Society, has been chosen presi-

dent of the Moyer-Myers Family-Reunion Association, which meets annually at Perkasie Park.

Dr. R. S. Marshall, of Pittsburgh, was selected to head the Pennsylvania State Homeopathic Society in annual session at Bethlehem, September 17. Dr. Thomas D. Mills, of Harrisburg, was made trustee.

Dr. and Mrs. J. Elmer Schaefer, of Cogan Station, recently took a motor trip covering over a thousand miles, including Niagara Falls, Toronto, and Kingston, Canada, Thousand Islands, and Watkins Glen.

Dr. and Mrs. Daniel Daley, of Kingston, have returned home from a three months' wedding trip in Europe. The Doctor attended diagnostic clinics and took a course in laboratory work while in Vienna.

Dr. and Mrs. R. B. Hayes, of Jersey Shore, have returned from a three months' tour of Europe. While in Europe the Doctor visited some of the largest hospitals and attended clinics at thirty-three of them.

The hospital buildings of the Medico-Chirurgical Hospital, Philadelphia, have been sold to J. Walter Rosenberg by the University of Pennsylvania. The price paid was $800,000, as indicated by revenue stamps.

Dr. and Mrs. William Pepper, of Melrose Park, accompanied by Mrs. Pepper's daughters, Miss Nancy Drayton and Miss Phœbe Drayton, sailed early this month for Europe, where they will remain until Christmas.

The quarterly meeting of the Central Pennsylvania Homeopathic Medical Society was held in Columbia, August 14, with Dr. Gardiner P. Taylor, president, in charge. Members attended from Lancaster, York and Dauphin counties.

Dr. Ambrose Hunsberger, Secretary of the Philadelphia College of Pharmacy, has been appointed assistant administrator in charge of the issuance of permits for the withdrawal of alcohol in the Philadelphia district.

Norman Cummings, Philadelphia, has been sentenced to serve not less than seventeen months nor more than thirty-four months, for his assault on Dr. Warren Anders, of Trappe, when he gave the Doctor a broken jaw bone, in lieu of a three-dollar fee.

The engagement is announced of Miss May Dacosta Brick, daughter of the late Dr. Joseph Coles Brick and Mrs. Brick, to Mr. Thomas Biddle Kenilworth Ringe. Miss Brick is a niece of Dr. and Mrs. John Chalmers DaCosta, of Philadelphia.

Dr. Charles W. Dubin-Alexandroff, of Philadelphia, was arrested recently, charged with illegal possession and sale of narcotic drugs. The police arrested him after he had shown marked money given to an addict by police to make a drug purchase.

After forty-six years in the retail drug business in Philadelphia, Robert McNeil has retired from that branch of the business and will in the future devote his time exclusively to the manufacture of pharmaceuticals and surgical dressings.

Dr. Leopold S. Vaccaro, an instructor in the University of Pennsylvania School of Medicine, Philadelphia, who is in Rome in the interest of the Sesqui-Centennial Exposition, has received the honorary degree of doctor of medicine from the University of Rome.

Through the persistent and untiring efforts of the Committee on Permanent Home, of which Dr. Charles H. LaClair is chairman, the Fayette County Medical Society is soon to have a home of its own. Sufficient contributions have been pledged to assure the completion of their plans.

Dr. and Mrs. John H. Rorke, Dr. and Mrs. Charles J. Dietrich, and Dr. and Mrs. O. E. Fox, of Reading, recently spent a month visiting Halifax and the St. Lawrence River section. Dr. and Mrs. H. U. Miller, of the same city, vacationed at Muskoka, Canada, and about the lakes of Ontario.

Two hundred and seventy-four medical-college graduates were successful in the examinations of the State Board of Medical Education and Licensure held in July at Philadelphia and Pittsburgh. The candidates represented thirty-one American, three Canadian, and eight European colleges and universities.

Dr. and Mrs. Henry W. George, of Middletown, and son Forney, a student at Jefferson Medical College, and three daughters, recently returned from a tour of England, Scotland, and the Continent. Dr. George while in England attended the convention of English-Speaking Ophthalmological Societies held in London, July 13-17.

The Hahnemann Hospital and Medical College, 15th Street above Race, Philadelphia, is planning to move from its location of more than half a century to a new site on the Parkway. The plans for the new institution include the construction of a new hospital and college building, which will cost more than $2,000,000.

At the Mont Alto and Cresson sanatoriums for undernourished children, nearly a thousand patients from all sections of the State were given six weeks' treatment, including heliotherapy. The State Department of Health says that nowhere in the United States has this successful and scientific treatment been applied so vigorously and comprehensively.

Dr. Charles H. Keene, director of the Bureau of Health Education in the Department of Public Instruction since 1921, has resigned. He is now professor of hygiene and director of physical education at the University of Buffalo. William G. Moorhead, who has been assistant director of the bureau, became acting director September 16, when Dr. Keene's resignation was effective.

Because of "constant criticism and kicks" from the Borough Council three members of Lansdowne's Board of Health have resigned and the resignation of a fourth is pending. Failure of the Council last July to appropriate $1,000 for milk inspection when the board's report showed no records of such inspections led to the present disruption of the board. Dr. Victor Janvier is one of the members who resigned.

The First Medical Regiment, Medical Field Service School, United States Army, Carlisle, was host to Major Arnold D. Tuttle; M. C., at a dance given in his honor recently. The dance was attended by about 300 officers, enlisted men and citizens of Carlisle. Major Tuttle, who has been regimental commander at the school since January has been transferred to the office of the Surgeon-General at Washington.

Bequests of $1,000 each to the Roosevelt Hospital, Methodist Hospital, Rush Hospital, and Children's Homeopathic Hospital, all of Philadelphia, have been made by the will of the late Charles Lockhart, also of that city. By the will of Madeline K. Vandergrift, of Philadelphia, $500 has been bequeathed to the American Anti-Vivisection Society. Additional bequests included $1,000 to the Women's Homeopathic Hospital, for the maternity building, and $2,000 additional to that institution for general purposes.

The Homeopathic Medical Society of Pennsylvania held its sixty-second annual session September 15 to 17, at Bethlehem. Various diseases were discussed, and reports were made as follows: by the Committee on Legislation, on the medicolegal status of homeopathic physicians; on tests of homeopathic remedies made on students of Hahnemann Medical College; annual report of the Allentown State Homeopathic Hospital by Dr. Henry L. Klopp; and a report on the Women's Homeopathic League of Pennsylvania by Mrs. Frederic M. E. Howell, of Reading.

Dr. Hubley R. Owen, chief police surgeon of Philadelphia, has submitted a report to Director Butler, following his return from a study of conditions in Europe,

recommending that a definite retirement age be established in the police and fire bureaus. He favors a height minimum of 5 feet, 9 inches, as against 5 feet, 7 inches, which now prevails in his city. Men physically unfit should be required to appear before the civil-service commission on recommendation of the chief surgeon, and should be retired from active duty.

At the forty-third annual meeting of the Pennsylvania State Veterinary Medical Association, Williamsport, September 17th, the following officers were elected: President, F. N. Fensle, Lebanon; vice-presidents, C. W. Springer, Uniontown; E. A. Athouse, Sunbury; W. J. Lentz, Philadelphia; recording secretary, G. A. Dick, Philadelphia; corresponding secretary, H. R. Church, Harrisburg; treasurer, D. R. Kohler, Boyertown; trustees, T. H. Sherick, Philadelphia; R. W. Keepers, Greencastle; P. E. Quinn, Harrisburg; Samuel Hendman, Lewistown; H. J. Little, Williamsport.

Officers elected by the Homeopathic Medical Society of Pennsylvania for the coming year are: President, Dr. Robert S. Marshall, Pittsburgh; vice-presidents, Drs. John H. Wurtz, Philadelphia, and George H. Haas, Allentown; secretary, Dr. E. Donald Scader, Philadelphia; treasurer, Dr. Anna Johnston, Pittsburgh; necrologist, Dr. D. S. Kisstler, Wilkes-Barre; censor, Dr. Malachi W. Sloan, Philadelphia; trustees for three years, Drs. John A. Brooke, Philadelphia; W. W. Seibert, Easton, and J. Miller Kentworthy, Philadelphia; for two years, Dr. Thomas D. Mills, Harrisburg.

Regulation No. 35 states that a prescription containing paregoric may be renewed but *a record must be kept of it.*

This record may be kept in the Paregoric Register or on the Narcotic File. In either case, the name, address and date must be recorded.

Paregoric may be sold over the counter in quantities not exceeding two ounces, for medicinal use by persons over twelve years of age. The name, address, and date must be recorded, and in no case can it be sold to the same person frequently, or where the druggist has any reason to believe that the customer is an addict.

By the will of Simon Gratz, a former president of the Board of Education of Philadelphia, whose estate is valued at $1,000,000, $50,000.00 is to be set aside for the establishment of a private room in Jefferson Hospital for the occupancy of school teachers, active and retired, free of expense. Other bequests were: To the trustees of the Jefferson Hospital, $7,000 for award to the graduate who, within five years after graduation, is adjudged as having done the most in the advancement of medical or surgical treatment of disease, or research work; to the Jefferson Hospital, $15,000 for establishment of three beds as a memorial to his mother, aunt, and sister; also to the Hospital, $5,000 as a memorial to his wife.

Nellie Lynn, of Philadelphia, who died in the University Hospital, disposed of a large part of her $15,000 estate in public bequests. Bequests of $1,000 each were made to St. Joseph's Home for the Blind, Jersey City, Home for Incurables, St. Vincent's Home and St. Edmond's Home for Crippled Children. Additional bequests of $500 each were made to St. John's Male Orphan Asylum, Misericordia Hospital and Little Sisters of the Poor. By the will of Lina B. H. Sedridge, of Philadelphia, bequests of $1,000 each were made to the Episcopal Hospital, New Century Guild, several churches, the Y. W. C. A., and for the establishment of a bed in the Woman's Hospital.

Important Notice.—On and after January 1, 1926, every person who shall enter a pharmacy or drug store with the intention of becoming a pharmacist or assistant pharmacist must be registered as an apprentice with the State Board of Pharmacy, Harrisburg, Pa.

Section 1. Be it enacted, &c., that on and after the approval of this act every person who shall enter a pharmacy or drug store with the intention of becoming a pharmacist or assistant pharmacist shall make application to the State Board of Pharmacy on a form furnished by it for registration and certificate as registered apprentice. The fee for such registration and certificate shall be two dollars ($2.00), or such other sum as may be fixed by the Department of Public Instruction under authority of law.

Renewing Prescriptions Containing Paregoric.—A warm debate was started at the July meeting of the Philadelphia Association of Retail Druggists when a case was recited of a pharmacist who had been called to task by an inspector of the Narcotic Division for renewing a three-ounce prescription containing two drachms of paregoric.

The point involved was that the original prescription was an old one, and for convenience sake the druggist had from time to time carried it forward on a copy. The inspector claimed that he had no right to renew it, and that he incurred the danger of a fine by doing so.

On first thought it seemed ridiculous that a druggist could sell one or two ounces of paregoric over his counter simply by making a record of it, but he could not renew a prescription containing even the smallest quantity of paregoric.

Since it is a condition that confronts almost every druggist frequently, it aroused deep interest.

GENERAL NEWS ITEMS

The Pennsylvania Railroad has established through Pullman service from New York to French Lick, Indiana, which is quite a convenience to those people wishing to go to the French Lick Springs.

The American College of Radiology and Physiotherapy will meet in Chicago, at Hotel La Salle, October 19 to 22, 1925, when a splendid program will be presented. Special railroad rates of one and one-half fare for the round trip have been secured.

Dr. J. S. Halstead, of Breckenridge, Missouri, died at his home on September 13th, aged 107. Dr. Halstead had the distinction of being the oldest freemason in the United States, and was the physician of Henry Clay during the statesman's later years.

Scholarships on the Oliver-Rea Foundation for graduate study in Medicine are available at the New York Post-Graduate Medical School and Hospital. In awarding these scholarships, preference is given to residents of Pennsylvania. Inquiries should be addressed to the Dean, 301 East 20th Street, New York City.

Dr. Henry Ross Carter, Assistant Surgeon-General-at-Large of the United States Public Health Service, died at his home in Washington, on September 14th. Dr. Carter did notable work during the construction of the Panama Canal, and was considered one of the ranking authorities on the subject of yellow fever.

W. D. Jones, of Jacksonville, Fla., has been elected chairman, and Dr. Jacob Diner, of Fordham University, New York City, vice-chairman of the American Pharmaceutical Association. The Ebert award, given each year to the man who has made the most signal contribution to the advancement of pharmaceutical science, was given to Dr. H. T. Youngker, of the Massachusetts College of Pharmacy, Boston.

An examination was held by the American Board of Otolaryngology on May 26, 1925, at the Medico-Chirurgical Hospital, Philadelphia, with the following result: Passed, 137; failed, 20; total examined, 157. The next examination will be held at the University of Illinois School of Medicine on October 19, 1925. Applications may be secured from the Secretary, Dr. H. W. Loeb, 1402 South Grand Boulevard, St. Louis, Mo.

Thirteen British women have received the vote in one of the most autocratic institutions in the world, the Royal College of Surgeons. These thirteen are already

fellows and members of the college, but without corporate rights. It has now been decided to permit them to vote for the all-powerful council and to make them eligible to that body. Women surgeons thus have captured the last stronghold of their profession.

The thousand-dollar Leonard prize of the Roentgen-Ray Society and the gold medal of the American Radiological Society were bestowed on Drs. Everts Ambrose Graham, Glover H. Gopher, and Warren H. Cole, of St. Louis, at the meeting of the Roentgen-Ray Society at Washington the latter part of September, for their discovery of a process making possible earlier and more accurate diagnosis of gall-bladder disease.

On July 16, the corner stone was laid for the new home of the St. Louis (Missouri) Medical Society. The building will be fire proof, two stories high, providing room for a medical library, administrative offices, and a meeting place in the basement to seat about 400. The erection of an auditorium with accommodations for 1,000, has been postponed until sufficient funds have been obtained. The cost of the present structure will be about $175,000.

Permanent closure of the medical diploma mills in Missouri is the object of *quo warranto* suits filed in the Supreme Court by Attorney General Otto. The proceedings are instituted against the St. Louis College of Physicians and Surgeons and the Kansas City College of Medicine and Surgery. The Attorney General has specified eight charges against each of the schools and four additional charges against the Kansas City College of Medicine and Surgery.

The Remington Honor Medal, one of the highest distinctions in pharmacy, has been awarded for 1925, to Dr. Henry M. Whelpley, dean of the St. Louis College of Pharmacy.

This is the sixth award of the medal, which is bestowed annually by the New York Branch of the American Pharmaceutical Association upon the pharmacist "who has been of outstanding service to his profession." The jury of award is composed of the former presidents of this Association.

UNITED STATES CIVIL SERVICE EXAMINATION

The United States Civil Service Commission announces the following open competitive examination: Junior Medical Officer, Assistant Medical Officer, Associate Medical Officer, Medical Officer, and Senior Medical Officer.

Applications for these positions will be rated as received until December 30. The examinations are to fill vacancies in various branches of the Government Service.

For positions in the Departmental Service at Washington, D. C., the entrance salaries are: Junior Medical Officer, $1,860 a year; Assistant Medical Officer, $2,400 a year; Associate Medical Officer, $3,000 a year; Medical Officer, $3,800 a year; and Senior Medical Officer, $5,200 a year. Advancement in pay may be made without change in assignment up to $2,400 a year for Junior Medical Officer, $3,000 a year for Assistant Medical Officer, $3,600 a year for Associate Medical Officer, $5,000 a year for Medical Officer, and $6,000 a year for Senior Medical Officer.

For positions in the field services, appointments may be made at the salaries stated above or at higher or lower salaries, the entrance salary depending upon the qualifications of the appointee as shown in the examination and the duty to which assigned.

Competitors will not be required to report for examination at any place, but will be rated on their education, training, and experience.

Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or custom house in any city.

THE FOLLY OF UNSELLING

If a man truly deserves a high destiny, he will attain it. Time spent trying to thwart him is worse than waste time because it corrodes the spirit of the one who makes the attack. Effort against another rarely succeeds unless that other has already failed. If your adversary is vulnerable it is permissible perhaps to press home your own superiority. But, again, if he deserves and is deserving of his high destiny—you wound yourself when you seek to injure him. There are those men, and those artistries, and those business institutions, which never relax their integrity and never lose their title as leaders. They do not lose their leadership because they strive with mind, heart, and soul to continue to deserve it. Wise men do not waste time tilting at such high peaks as these. More especially, wise men do not seek to alienate the millions who have bestowed the leadership. When men in the mass have conferred fame and glory upon a name, it becomes in a sense their name, and they guard it jealously. They are, as we say in the colloquialism of commerce, "sold" on that name; which means that they believe in it implictly. And, of all the follies of selling, there is no greater folly than that of seeking to unsell that which is well and truly sold in the minds of men. Unselling fails a thousand times where once it wins a hollow victory. It delays, and distracts, and stirs up the muddiest depths of anger and envy. It poisons the sources of mental and creative activity and diverts them from their honest and healthful purposes. The excitement and the enthusiasm it engenders in the salesman who has undertaken the thankless task is a false and artificial emotion, born of unworthy motives. It punishes him whose one desire is to inflict punishment. Meanwhile, the man, or the thing, or the business house of high destiny goes on unperturbed. If that destiny is deserved, it will be attained and maintained.—From an ad. in the *Saturday Evening Post.*

A SOLILOQUY

THE PHILADELPHIA COUNTY MEDICAL SOCIETY

I am a physician.

I am a member of a guild whose constant purpose through the ages has been to heal the sick, make the blind to see, the lame to walk, and to comfort those who mourn.

I am rich in the heritage of history and traditions that have been handed down to me by the Fathers in Medicine. I am bound by the oath of Hippocrates to be faithful to those traditions and high ideals which bind our guild together in unity.

I should ever maintain a spirit of tolerance and forbearance toward my fellow members of the craft, remembering that we all are human and liable to err.

I must so live that when this mortal coil is shuffled off it may be said of me that I have ever been true to my obligation and that the traditions of medicine have not been sullied by me.

It is my duty to labor for the right; to fight wrong; to seek the good of mankind; to encourage the younger members of my profession; to work shoulder to shoulder with my confreres to attain those laudable aims and purposes, keeping in mind the truth that when we travel together with unanimity of purpose, success will be ours.

"With malice toward none and charity toward all," I pledge myself to those high ideals which are entrusted to me.

We are the County Medical Society.—A. C. M. in the *Weekly Roster and Medical Digest.*

THE

MEDICAL SOCIETY OF DELAWARE

BRONCHOSCOPY IN LUNG SUPPURATION*

LOUIS H. CLERF, M.D.

PHILADELPHIA, PA.

Expulsion of secretion from the tracheobronchial tree is normally accomplished by the activity of the cilia, the cough reflex, and the bronchial movements.

In the usual expectant plan of treatment of lung suppuration, the internist depends very largely on these factors, in combination with postural drainage and general hygienic measures, to maintain adequate drainage from an abscess which has established communication with a bronchus. Theoretically, a lung abscess which has opened into a bronchus should clear up spontaneously under this form of treatment if the integrity of these factors remains unimpaired. Too often, however, this is not the case.

In searching for the causes of failure of spontaneous cure, one finds many contributing factors. Massive infection combined with lessened resistance play an important part in certain cases, and these usually terminate fatally. More often the patient survives the initial infection and passes into a state of invalidism. In other words, the abscess becomes chronic because of interference with drainage.

*Read before the Newcastle County Medical Society at Wilmington, Delaware, on April 21, 1925.

In the treatment of lung abscess one should recall the old surgical axiom applicable to pus collections anywhere: Not only should the pus be evacuated, but, equally important, *adequate drainage should be maintained.*

In reviewing the history of a case of lung abscess, one is impressed with the frequent occurrence of fever and its associated manifestations accompanied by decreased cough and expectoration, only to find that, with the return of increased expectoration of pus, the temperature again returns to normal. This febrile paroxysm is undoubtedly an indication that there is retention of pus.

Given such a case, the outstanding indication for treatment consists of *improving drainage.* Before deciding on the best means to accomplish this, we must recall that many of the factors which interfere with continuous free discharge of pus from the abscess cavity act in a mechanical manner; namely, by plugging of the fistulous communication of the draining bronchus with granulations, necrotic material, or thick, tenacious secretion, by edematous and inflammatory mucosa, or by cicatricial stricture. In addition, the cough reflex becomes less active and the cilia, being overburdened and bathed in pus, become sluggish or are lost from the cell.

Improvement of drainage is usually a problem for the surgeon. This, however, cannot

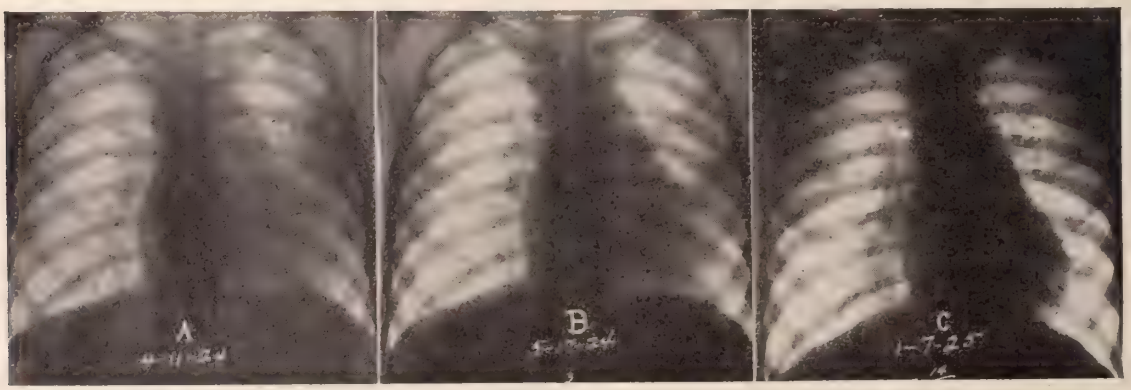


Fig. 1. Roentgenograms of a child aged 8 years with a lung abscess coming on about one week after tonsillectomy under general anesthesia. (X-ray studies by Dr. W. F. Manges.)

A. Roentgenogram showing extensive pathology in the lower part of the left upper lobe.

B. Roentgenogram taken about five weeks after the foregoing, following the third bronchoscopic treatment, shows marked clearing of the area of pathology in the lower lobe.

C. Roentgenogram made nine months after the tonsillectomy and about five months after the child was free from symptoms shows no pathology other than generalized peribronchial thickening.

always be safely accomplished by the customary surgical procedure of "incision and drainage." In considering the form of assistance to be rendered in any case, it is necessary to weigh the dangers as well as the benefits which may accrue to the patient.

Bronchoscopy can accomplish through the natural passages, to a great extent, that which the surgeon intends to secure by external operation. It can be quickly done, with a maximum of safety and a minimum of discomfort. In adults, only local anesthesia is used; in children, no anesthetic is required. General anesthesia is never given. Should bronchoscopy prove to be of no benefit, it interferes in no way with the performance of any surgical procedure which may be indicated.

The indications for bronchoscopy in treatment can be determined only after careful study of the patient by physical examination and roentgenology. A case of pulmonary tuberculosis complicated by suppuration is usually not suitable for bronchoscopic treatment. An abscess situated near the periphery of the lung is usually readily accessible to external surgical drainage. Patients with multiple abscesses, acute diffuse suppurative pneumonitis, extensive cardiovascular disease or aneurysm, profuse recent pulmonary hemorrhage, or abscess as a terminal complication are not suitable cases for bronchoscopic treatment.

After having concluded that there is no contraindication present, a diagnostic bronchoscopy is performed. The interior of the trachea and bronchi are carefully examined to corroborate the localization of the abscess. The condition of the mucosa is observed. The presence of any mechanical obstruction to free drainage is noted and corrected if possible. An uncontaminated swab specimen of pus is removed for bacteriological study and for making a vaccine.

The data obtained by this diagnostic procedure can be secured in no other way, and furnish criteria which can be used in deciding upon the best form of treatment to be carried out in any given case. Without this, our conclusions would be arrived at largely on information based on inference.

Experience has shown that the best results by bronchoscopic treatment are obtained in recent cases of lung abscess. This is well shown by the following case:

CASE I

E. B., a female, aged eight years, was referred to the Bronchoscopic Clinic by Dr. R. M. Tyson of the Pediatric Outpatient Department, Jefferson Hospital, with a diagnosis of lung abscess, post-tonsillectomic in origin. The physical signs indicated suppuration in-

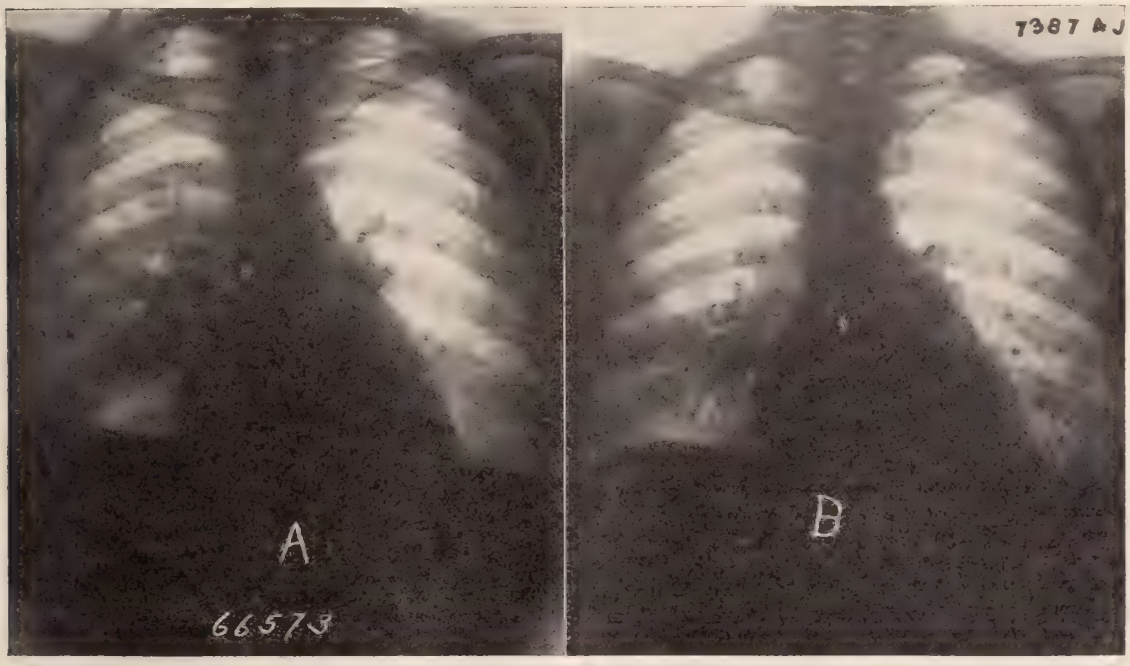


Fig. 2 . Roentgen-ray studies made of the chest of a patient, aged 29 years, who developed pulmonary suppuration following operation (tonsillectomy and appendectomy) under ether anesthesia. (Films by Dr. W. F. Manges.)

A. Roentgenogram taken two years after the onset of symptoms and before bronchoscopic treatment had been instituted. There is extensive pathology involving a great part of the right lower and middle lobes.

B. Roentgenogram taken ten months after the foregoing. Seventeen bronchoscopic treatments had been given, the last bronchoscopy having been done four months before this film was made. The patient seems perfectly well, being free from all symptoms. There is marked general peribronchial thickening present. This is a not unusual finding in these cases, even after all symptoms have subsided.

volving the left upper lobe. Dr. W. F. Manges's report of the Roentgen-ray study of the chest corroborated Dr. Tyson's findings (Fig. 1-A). There was a history of tonsillectomy under general anesthesia on April 1, 1924. The patient was discharged in good condition on the day following operation. On the fourth day after operation she developed fever and cough, and on the ninth day there was expectoration of thick greenish pus. The patient did not return to the laryngologist who did the tonsillectomy; instead she was brought to the Outpatient Department, Jefferson Hospital, where Dr. Tyson was consulted.

When admitted to the Bronchoscopic Clinic the temperature varied from normal to 100° F. Daily expectoration of pus varied from two to three ounces. The first bronchoscopy was performed without anesthesia on April 19, just two weeks after the onset of symptoms. The diagnosis and localization of the abscess were verified. Bronchoscopy was repeated at five-day intervals, and after the third treatment the patient was discharged from the hospital to be cared for as an ambulatory case. The temperature was normal, there was a gain in weight of six pounds, physical examination of the chest showed marked improvement, and Roentgen-ray study showed practically no exudate remaining (Fig. 1-B). The patient now is clinically and symptomatically well. An x-ray study made eight months afterwards showed general peribronchial thickening, with no other evidence of pathology in the chest (Fig. 1-C).

Comment.—This case demonstrates the unreliability of statistics regarding postoperative complications unless a careful follow-up system is maintained. Early recognition of the condition, with maintenance of adequate drainage, was followed by rapid and complete cure.

In cases of long duration, certain pathologic changes occur about the abscess which prevent collapse of the cavity and interfere with drainage. The granulations and cicatricial changes about the orifice of the draining bronchus are frequently obstructing, leading to retention of pus with an associated systemic reaction. Bronchoscopy, to be of benefit in these cases, must be continued over a long period of time, and even then the results are often far from satisfactory.

The following is a case of prolonged duration which responded favorably to bronchoscopic treatment.

CASE II

I. B., a woman, aged 29 years, had a tonsillectomy and appendectomy performed under ether anesthesia during February, 1922. Shortly afterwards she developed a cough which later became productive, the expectoration being fetid and purulent. This was accompanied by fever and chills. Examination of the chest revealed signs over the right lung. She apparently did well under general medical care for about one year. However, there was always some cough, and she had two moderate pulmonary hemorrhages. About one year after the onset, she developed what was regarded as pneumonia, and was confined to her bed for three months, with marked cough, expectoration, and one severe hemorrhage. Following this there was general improvement, the cough was not marked and the sputum was not foul. This continued until two months before admission to the Bronchoscopic Clinic, when there was a recurrence of the chills and fever with cough and fetid expectoration.

On February 1, 1924, two years after the onset of symptoms, the patient was admitted to the Jefferson Hospital. The temperature varied between 99° and 103° F. The amount of fetid pus expectorated varied from 200 to 575 c.c. in twenty-four hours. Dr. T. McCrae localized the pathologic process in the right lower and middle lobes. He found that the physical signs varied considerably from time to time, suggesting that at times there was considerable retention of secretion. By Roentgen-ray study of the chest, Dr. W. F. Manges reported extensive pathology in the middle and right lower lobes, suggesting a suppurating process (Fig. 2-A).

In consultation with the internist and roentgenologist, diagnostic bronchoscopy was decided upon. This was done under local anesthesia, and corroborated the diagnosis and the localization of the infected area. After aspiration of a large quantity of pus from the right bronchus, the mucosa was found greatly swollen, the rings being obliterated, and drainage interfered with. After the second bronchoscopy, the patient had improved sufficiently so that she could return home and be treated as an ambulatory case. Treatments were continued at weekly intervals. After the tenth treatment the patient had improved to such an extent that she failed to return for the next scheduled treatment. Within two weeks there was a return of the cough and moderate expectoration, which served as a reminder that she was not cured, and treatments were resumed. Seventeen treatments were given, the last bronchoscopy being done six months after bronchoscopic treatment was instituted. The patient was repeatedly observed, and remained free from symptoms. An x-ray taken by Dr. W. F. Manges three months after the last bronchoscopy showed marked general peribronchial thickening, especially in the right lower lobe (Fig. 2-B).

Comment.—This case presents the not-unusual picture of frequent systemic reactions associated with retention of pus due to obstruction.

CONCLUSIONS

It has been our experience at the Bronchoscopic Clinic that the best results are obtained when bronchoscopic treatment is instituted early and continued in conjunction with postural drainage and the usual general measures of treatment advised by the internist and carried out under his direction.

Diagnostic bronchoscopy presents a means of obtaining objective information regarding the interior of the tracheobronchial tree. In skillful hands it can be quickly and safely done without a general anesthetic.

Not every case of lung suppuration is suitable for bronchoscopic treatment. Only by close coöperation of the internist, roentgenologist, surgeon, and bronchoscopist can the best interests of the patient be served and scientific progress made in medicine.

HYDROCELE
AN EASY METHOD OF CURE

BENJAMIN R. VEASEY, M.D.
WILMINGTON, DEL.

For several years I have been treating hydrocele by a method which I have not seen described in any of the literature on this subject, but which has proved quite effective.

After shaving and careful sterilization of the skin over the hydrocele sac, locate the testicle by aid of a good light, anesthetize a point in the skin away from the testicle, and at this point puncture through the wall of the hydrocele sac with a trocar and canula of sufficient caliber to admit a number-16 French soft-rubber catheter.

After evacuating the fluid, introduce the sterile catheter through the canula into the collapsed sac from one to four inches, according to the size of the sac.

Seizing the scrotum and sac between the thumb and finger, grasp the end of the catheter in the sac and with the other hand gradually withdraw the canula, leaving the catheter protruding from the sac.

Fix the catheter by a stitch to the skin, and cut it off so as to leave about an inch protruding.

Cover with an abundant dressing of gauze, retained by a large suspensory or other bandage. This gives continuous drainage, and the presence of the catheter in the sac creates sufficient irritation to set up inflammatory adhesion between the walls of the sac.

Usually there will be a slight febrile reaction and considerable redness and swelling of the scrotum by the end of forty-eight hours, when the catheter should be removed and moist heat applied for a day or two. The swelling gradually subsides, the sac contracts, and the result is usually the cure of the hydrocele.

This is easily done as an office operation. It is an improvement over the old method of injecting chemical irritants such as iodin, carbolic acid, etc., or introducing a coil of catgut into the sac, for the reason that continuous drainage is maintained and the irritation may be terminated at the will of the operator by removing the catheter.

Industrial Trust Building.

A noted London physician says that we have gone crazy on the subject of vitamines, and we are inclined to believe that in a large measure he is correct, but when the subject is analyzed we are bound to admit that the public, and in particular the food manufacturers, are the ones who have run the subject ragged. What is needed is a little horse sense concerning the question of diet, and the encouragement of all individuals to have well balanced rations.—*Jour. Ind. State Med. Asso.*, August, 1925.

EDITORIALS

THE PHYSICIANS' AND SURGEONS' HOSPITAL CAMPAIGN

The Physicians' and Surgeons' Hospital Association is launching a campaign for a half million dollars, half of this sum for buildings and the other as an endowment to cover the annual deficit. The other hospitals in Wilmington have had their drives, one for $300,000, and the other two for $250,000 each, and are now well equipped. The Physicians' and Surgeons' is the only institution in the city that is still housed in a private dwelling with a makeshift equipment. Yet it is perhaps the one hospital which ought to make the strongest appeal to the physicians.

There is a great deal to be said in favor of a closed-staff hospital. It is much easier to carry out a routine with a fixed and permanent organization. The personnel, from the probationer to the superintendent, is thoroughly familiar with the ways and idiosyncrasies of every member of the staff, and the adjustments, once made, keep up without much friction. Moreover, the staff is made up of a more or less selected group, and there is a greater opportunity for team-work or group medicine. If any member of the staff becomes obstreperous he is readily eliminated. Not so with an open hospital. In dealing with all sorts of doctors—good, bad, and indifferent—it is extremely difficult to establish and maintain routine procedures. Adjustments are hard to make, and friction between the visiting physicians and the hospital personnel is of common occurrence.

Yet, overshadowing these drawbacks is the fact that every reputable physician in the community is on an equal footing and is afforded every opportunity to avail himself of the facilities of a modern hospital. The young physician, accustomed as he has become to a hospital environment, finds himself in the position of the proverbial fish out of water. In vain does he knock at the doors of the hospitals of the town in which he has located. His patients are few, and of the poorer class. He cannot afford to turn them over to another physician who is on the staff. He becomes discouraged and does the best he can. In time, he adapts himself to his unfavorable environment, loses the enthusiasm for scientific medicine acquired in his college days, and becomes the kind of practitioner we all deplore—the man with a snapshot diagnosis, and a pill for every ill. The open hospital saves him. We wish the Physicians' and Surgeons' Hospital success in their campaign.

THE PROGRAM THIS YEAR

The program for the coming meeting of the Delaware State Medical Society is published in this issue. It will be noticed that considerable stress is laid this time on the social side of the meeting. There will be a dinner and theater party on Tuesday night, and a luncheon on Wednesday noon. The Program Committee is making a special effort to bring the members together and make them forget their troubles and tribulations at least once a year.

The trouble with the doctors is that they are not what the labor agitator calls "class conscious." They lack group solidarity and group loyalty. That is the reason the quacks and charlatans get away with murder. We want to remedy this, and the best remedy is to get together once in a while, greet each other in a fraternal spirit, and have a good time.

By the way, the ladies are invited, and if one cannot have a lot of fun with his own wife, well, then— but we better not finish the sentence. It is a cross word puzzle.

PROGRAM

ONE HUNDRED AND THIRTY-SIXTH ANNUAL SESSION

of the

MEDICAL SOCIETY OF DELAWARE (1789-1925)

October 13 and 14, 1925, Wilmington, Delaware

OFFICERS

President, Joseph P. Wales.
First Vice-President, R. G. Paynter.
Second Vice-President, J. B. Derrickson.
Secretary, W. O. LaMotte, Industrial Trust Bldg., Wilmington.
Treasurer, S. C. Rumford, 1403 Market St., Wilmington.
Councilors—J. W. James, W. T. Jones, Henry W. Briggs.

DELEGATES

KENT: C. J. Prickett, J. S. McDaniel; *Alternate,* Joseph Bringhurst.

NEW CASTLE: W. V. Marshall, A. J. Gross, O. S. Allen, John Palmer, W. E. Bird, J. H. Niles, Lewis Booker, O. W. Show, H. L. Springer, J. Adair; *Alternates,* N. W. Voss, B. S. Vallett, Paul Smith, T. H. Davies, Albert Robin, Eli Nichols.

SUSSEX:
Delegate to American Medical Association—W. O. LaMotte, Wilmington. *Alternate*—W. E. Bird, Wilmington.
Delegate to Maryland Society—G. F. Jones.
Delegate to Pennsylvania Society—H. L. Springer.
Delegate to New Jersey Society—Joseph Bringhurst.
Delegate to New York Society—J. A. Spackman.
Delegates to State Pharmaceutical Society—H. M. Manning, C. deJ. Harbordt, B. M. Allen.

COMMITTEES

Committee on Scientific Work—A. Robin, R. B. Hopkins, P. S. Downes.
Committee on Public Policy and Legislation—H. R. Burton, H. W. Howell, James Martin.
Committee on Medical Education—H. W. Briggs, L. S. Conwell, Julian Adair.
Committee on Necrology—P. W. Tomlinson, J. K. Hocker, L. A. H. Bishop.
Committee on Publication—W. E. Bird, Albert Robin, W. O. LaMotte.
Committee on Health Problems in Education—H. W. Briggs, Anna C. Shipley, J. A. Ellegood, W. P. Orr, Chas. E. Wagner.
Hospital Committee—Richard Beebe, J. R. Elliott, Edgar Q. Bullock.

1925 COUNTY SOCIETY OFFICERS

NEW CASTLE—*President,* I. L. Chipman; *Vice-President,* E. R. Mayerberg; *Secretary,* C. P. White; *Treasurer,* C. P. White.

KENT—*President,* L. S. Conwell; *Vice-President,* O. V. James; *Secretary,* A. T. Davis; *Treasurer,* A. T. Davis.

SUSSEX—*President,* R. C. Beebe; *Secretary,* J. B. Waples; *Treasurer,* J. B. Waples.

RULES

Essayists taking part in the annual session are requested to make careful note of the following:

1. Papers read before the Society become the property of the Society. Each paper shall be deposited with the secretary when read (Chapter X, Section 3 of the By-Laws of the Society).

2. Carbon copies are not accepted. Please turn in originals.

3. Double space all papers and leave plenty of margin, especially on first page.

4. No address or paper before this Society, except those of the president, invited guests, and orators, shall occupy more than twenty minutes in its delivery; and no member shall speak longer than five minutes, nor more than once on any subject, except by unanimous consent.

5. All members must be registered before they can participate in the proceedings and discussions of the general meeting (Chapter III, Section 1 of the By-Laws).

PROGRAM

Tuesday, October 13, 1925
2:00 P. M.

Meeting of the House of Delegates
HOTEL DUPONT
Members, 20 Quorum, 10
ORDER OF BUSINESS

1. Call to Order.
2. Roll Call.
3. Reading of Minutes of Last Session.
4. Appointment of Committee on Nominations.
5. Reports of Officers:
   a. President.
   b. Secretary.
   c. Treasurer.
   d. Councilors.
   e. Editor.
6. Reports of Committees:
   a. Scientific Work.
   b. Public Policy and Legislation.
   c. Medical Education.
   d. Necrology.
   e. Publication.
   f. Hospitals.
   g. Health Problems in Education.
   h. Auditing.
   i. Nominations.
7. Reports of Delegates:
   a. American Medical Association.
   b. Federation of State Medical Boards.
   c. Other State Societies.

8. Unfinished Business.
9. New Business.
   a. Resolutions.
   b. Communications.
   c. Appropriations.
   d. Approval of Scientific Program.
   e. Selection of Meeting Place.
   f. Miscellaneous.
10. Adjournment.

Tuesday, October 13, 1925
6: 00 P. M.

Hotel duPont

DINNER

for members and visiting ladies as guests of the New Castle County Medical Society.

8: 15 P. M.

Theater Party.
Playhouse.

Wednesday, October 14, 1925
9: 00 A. M.

Hotel duPont

Invocation.
Address of Welcome—Hon. G. W. K. Forrest, M.D.
President's Address.
Report of House of Delegates.

Scientific Papers

1. Urologic Case Reports with Lantern-Slide Demonstration. Brice Sewell Vallett, Wilmington
2. The Practice of Hydrotherapy in the Treatment of Veterans of the World War.
   Colonel L. M. Maus, Hot Springs National Park, Arkansas.
3. The Activities of the American Medical Association.
   Charles W. Richardson, Washington, D. C., Trustee of the American Medical Association.

Wednesday, October 14, 1925
12: 30 P. M.

Luncheon at Hotel duPont

Wednesday, October 14, 1925
2: 00 P. M.

Hotel duPont

Scientific Papers

4. Lantern-Slide Demonstration of the Conduction System of the Heart, and Injection of the Purkinje System of the Heart.
   John Eiman, Philadelphia, Pa.
5. Lantern-Slide Demonstration of Electro-cardiograms Illustrating Some Clinical Cases.
   Olin S. Allen, Wilmington
6. Roentgenological Aspect of Duodenal Ulcer (Lantern Slides). Ira Burns, Wilmington
7. Gall-Bladder Diagnosis.
   William H. Kraemer, Wilmington
8. Address Jay F. Schamberg, Philadelphia, Pa.

WHY EVERY PHYSICIAN IN DELAWARE WHO IS ELIGIBLE SHOULD BELONG TO THE MEDICAL SOCIETY IN HIS COUNTY

1. Membership in your county society makes you a member of the Medical Society of Delaware.
2. It gives you the benefit of the Medical Defense Fund, which defends you against malpractice suits.
3. It gives you free every month a first-class medical journal.
4. It gives you the privilege of becoming a member of the American Medical Association, and upon payment of five dollars for its valuable *Journal,* of becoming a fellow of the Association.
5. It gives you the opportunity of participating in all the benefits of organized medicine.
6. It gives you better chance for appointment as examiner for insurance companies and employment by industrial corporations.
7. It gives you the spirit of fraternity which is so much needed among doctors.
8. It gives you the chance for professional fraternity without which all doctors grow stale.
9. It gives you better standing in your community.

BOOKS RECEIVED

Old and New Viewpoints in Psychology. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. St. Louis: The C. V. Mosby Company, 1925. Price $1.50.

The Normal Diet. A simple statement of the fundamental principles of diet for the mutual use of physicians and patients. By W. D. Sansum, M.S., M.D., Director of the Potter Metabolic Clinic, Santa Barbara Cottage Hospital, Santa Barbara, Calif. St. Louis: The C. V. Mosby Company, 1925. Price $1.50.

Methods in Surgery. Used in the Surgical Divisions of Barnes Hospital, St. Louis Children's Hospital, and Washington University Dispensary. By Glover H. Copher, M.D., Instructor in Surgery, Washington University School of Medicine; etc. St. Louis: The C. V. Mosby Company, 1925. Price $3.00.

Personal and Community Health. By Clair Elsmere Turner, Associate Professor of Biology and Public Health in the Massachusetts Institute of Technology; etc. Illustrated. St. Louis: The C. V. Mosby Company, 1925. Price $2.50.

Some Fundamental Considerations in the Treatment of Empyema Thoracis. By Evarts A. Graham, A.B., M.D., Member of Empyema Commission, U. S. Army; Professor of Surgery, Washington University School of Medicine; etc. Illustrated. St. Louis: The C. V. Mosby Company, 1925. Price $2.50.

Symptoms of Visceral Disease. A Study of the Vegetative Nervous System in Its Relationship to Clinical Medicine. By Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P., Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California. Third edition, with eighty-six text illustrations and ten color plates. St. Louis: The C. V. Mosby Company, 1925. Price $6.50.

Eye, Ear, Nose and Throat Manual for Nurses. by Roy H. Parkinson, M.D., Visiting Oculist and Aurist to St. Joseph's Hospital, San Francisco, California. Illustrated. St. Louis: The C. V. Mosby Company, 1925. Price $2.25.

Ocular Therapeutics. A Manual for the Student and the Practitioner. By Doctor Ernst Franke, A. O. Professor of Ophthalmology and Chief of the Second Eye Clinic at the University of Hamburg. Translated by Clarence Loeb, A.M., M.D., Chicago, Ill. St. Louis: The C. V. Mosby Company, 1925. Price $3.50.

Allergy. Asthma, Hay Fever, Urticaria and Allied Manifestations of Reaction. By William W. Duke, Ph.B., M.D., Kansas City, Mo. With 75 illustrations. St. Louis: The C. V. Mosby Company, 1925. Price $5.50.

Treatment of Kidney Diseases and High Blood Pressure. By Frederick M. Allen, M.D. Part I. Practical Manual for Physicians and Patients. The Physiatric Institute, Morristown, N. J.

The Surgery of Pulmonary Tuberculosis. By John Alexander, B.S., M.A., M.D., Assistant Professor of Surgery in the Medical School, University of Michigan. With introductions by Hugh Cabot, M.D., C.M.G., LL.D., F.A.C.S., and Edward R. Baldwin, M.A., M.D. Illustrated with 53 engravings and 12 plates. Awarded the 1925 quinquennial Samuel D. Gross Prize by the Philadelphia Academy of Surgery. Philadelphia and New York: Lea & Febiger, 1925. Price $4.50.

BOOK REVIEWS

From a reviewer we expect information and advice which shall guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

DIET IN HEALTH AND DISEASE. By Julius Friedenwald, M.D., and John Ruhräh, M.D. Sixth edition, thoroughly revised. Octavo of 987 pages. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $8.00 net.

On the title page we read this timely quotation from Burton: "These few rules of diet he that keeps shall surely find great ease and speedy remedy thereby."

In the preface of the first edition appears: "The aim of this book is entirely practical.....To meet the needs of the general practitioner, hospital intern, and medical student."

On page 257 is: "Recent experiments have to do with the amount of proteins required when severe muscle work is performed." Then follow some statements which are so surprisingly archaic that we look at the footnotes and find that they were written in 1897. On page 534 is: "Herter has recently pointed out, etc., etc." Christian A. Herter, the founder of the *Journal of Biological Chemistry*, and one of the most valuable young men of his time in medicine, died September 10, 1910.

It is very unfortunate that a book which contains so much valuable information, perhaps the most comprehensive book on diet in existence, should contain such anachronisms as the above, throwing such doubts on the "thoroughly revised" of the title page as to shake one's confidence in the entire volume.

Since the first edition of this published work appeared in 1904, practically the entire science of modern dietetics has been developed. Copious references in this sixth edition bear witness to the development—Lusk, Atwater, Joslin, Hopkins, McCollum, Mendel, Osborn, Allen, DuBois, Sherman, Ellis, McLeod, and others. No work has shown more valuable additions from edition to edition, but the avowed aim of this book is to supply students and practitioners with the approved facts of modern dietetics. Such a book should not only be authoritative and comprehensive, but as concise as possible. The thousand pages of the present book immediately seem to stand in contradiction to the preface. The clinical student does not want voluminous dissertations and conflicting arguments, but concise facts as approved by the concensus of opinion. His interest is in practical results, not in polemic discussions which leave him in doubt as to the best course to pursue. As the results of medical advance have been added to each new edition, the obsolete ideas that were superseded should have been deleted. If the medical student is furnished with approved principles of modern dietetics, he can readily diet his patients according to the same, with the help of special principles developed for gout, diabetes mellitus, nephritis, typhoid fever, and certain other conditions. The idea of enumerating under special headings all the diseases in the category, as though there were a specific diet or specific dietetic indications for each disease, is not modern medicine or modern dietetics. The smaller a book of this sort can be made, the larger will be the number of students that will read it conscientiously from cover to cover, and therefore obtain a comprehensive idea of the subject. If the seventh edition of this work could be confined to four or five hundred pages, including all the really valuable tables grouped together at the end, and with the very valuable index of subjects enlarged, and with an added index of bibliography, the work would be greatly enhanced in value and would then come very close to supplying one of the great needs in medical literature.

In the present volume, there is throughout a noticeable lack of clearness, a lack of discriminating choice among the conflicting opinions, a confusing ambiguity where an authoritative definiteness is sought. The following quotations will illustrate the reviewer's meaning: Page 74: "With ordinary diets the requirements are easily met and this emphasizes the importance of milk, fruit, salad and other green vegetables." "Certain important substances occur in animal fats,.....vitamins are also important." "Iron-containing foods of great value are spinach, lettuce, asparagus, and similar things." Page 82: "Mayonnaise dressing will increase the food value by 187 calories, cream sauce by 91 calories." Page 406: "Scraped meat may be given with care and only in small amounts," but pea soup is objected to because of its purin content. This is apropos of the feeding in infectious diseases. In the treating of thirst after operation, no mention is made of hypodermoclysis or of the intravenous administration of water, although under "Rectal Feeding" a cursory reference is made to the use of salt solution by enema and subcutaneously, without details as to method, strength, or relative value. On page 177, *et seq.*, the subject of water is discussed inadequately and unscientifically, purification is confused with clarification, and the possibility of volatile toxins in distilled water is ignored. Foolish data and more foolish diets are given in connection with water cures in different parts of the world. Beef juice and predigested beef are frequently advised. Proprietary foods seem to be handled more with considerations of courtesy to the manufacturers than for real information for the student and practitioner.

There is much valuable information in the chapter on milk and milk products, but again there is very little specific guidance for the medical student or practitioner (vid. page 118). On page 19 in a table of the relative value of different proteins, eggs are entirely omitted and the statement is made (reference mislaid) that urea and ammonia are valuable products of protein metabolism. On page 23, *et seq.*, under "The Metabolism of Fat," a description is given of the way fat is utilized in the body without mentioning the all-important fact that the principle use of fat in the body is as a fuel, while very many interesting but less important facts about fat are exhaustively enumerated. The discussion of the physiology of food in this chapter is, as a rule, unduly technical and not sufficiently practical. On page 681 there begins a voluminous discussion on the subject of gout, mostly of purely historical value. Many of the dietetic suggestions are without any scientific basis, and the fact that gout is one of the diseases, if not the disease *par excellence*, which can and should be treated dietetically seems to be entirely lost sight of, or at least not stressed as it should be. The bulk of advice given for the treatment of gout was written before the desirability of a purin-free diet was established. The whole subject should have been rewritten on modern principles, i. e., the exclusion of exogenous purins, instead of an attempt to combine the old and the new with a very sympathetic regard for the patient, his tastes, habits, and desires rather than for his health. Considerable space is given to rectal feeding without any authoritative evaluation of the procedures which are given in great detail, and have been abandoned by the medical profession.

Many pages are given to Army and Navy rations, prison dietaries—Scotch, English, and French—many of them going back from twenty-five to fifty years, voluminous dietaries of no present value. Many other obsolete suggestions help to make this book formidable and unwieldly: Packard's and Bulkley's "Diet to Prevent Cancer"; Von Noorden's "Tables of Allowable Foods"; Burkart's "Diet for Nervous Dyspepsia"; many of the old Von Noorden and Johns Hopkins diets for diabetes which have no longer any practical value; Zweig's diet for mucomembranous colitis; Wegele's diet for "Plethoric Patients with Hemorrhoids"; Cohnheim's diets for diarrhea in different stages; a discussion of the meat-free treatment of tuberculosis; and other carefully quoted plans and tables which are interesting only to the medical antiquarian.

Among the valuable tables which should be retained may be mentioned those from the Connecticut Agricul-

tural Station, from Atwater, Sherman, Joslin, Locke, and others.

MODERN SURGERY, General and Operative. By J. Chalmers Da Costa, M.D., LL.D., F.A.C.S., Philadelphia. Ninth edition, revised and reset. Octavo of 1527 pages. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $10.00 net.

In this edition the author has elaborated extensively the previous editions, and has improved upon the former excellent work. Certain chapters which were present in former editions have been largely eliminated or reconstructed in the ninth. The author, with characteristic skill, has made this work on major surgery thoroughly comprehensive and entirely up-to-date.

Certain presurgical sciences, such as bacteriology, pathological histology, and bandaging, have been relegated to their proper places; that is, to treatises upon bacteriology, pathology, and minor surgery. Surgical diagnosis is prominently stressed, which has been true of previous issues. This point alone gives unusual merit to the work, even without the many additional features.

Topographical and surgical anatomy is discussed and clearly illustrated. The subjects of traumatic surgery, war wounds, and fractures are comprehensively treated, as well as many infectious diseases which have or may have a surgical bearing. Subjects such as carbon-monoxid poisoning, smoke, asphyxia, hanging, and drowning, are described, particularly from a diagnostic standpoint. A chapter of especial interest is that upon bronchoscopy and esophagoscopy. Surgery of the abdominal organs constitutes an important part of the present edition; also a classical description of hernia, from the standpoint of the anatomy, diagnosis, and treatment. Anesthesia, local, general and spinal, with a discussion of indication for each, is admirably handled. The illustrations are numerous and are particularly instructive.

The ninth edition is without doubt the best of a series of good works published by this authority on surgical literature, and is unquestionably the best single volume work on surgery.

INFECTIONS OF THE HAND. A Guide to the Surgical Treatment of Acute and Chronic Suppurative Processes in the Fingers, Hand and Forearm. By Allen B. Kanavel, M.D., Professor of Surgery, Northwestern University Medical School. Fifth Ed. Pp. 499. Illustrated with 96 engravings. Cloth, price $5.50. Lea and Febiger, Philadelphia and New York, 1925.

While entitled a guide in its superscription, this work becomes almost a treatise in this important branch of surgery.

For the general practitioner it will prove useful, facilitating early diagnosis; indicating what ought not to be done, as well as outlining clearly the treatment to be instituted. The reviewer is in accord with the author in his statements that too often minor infections of fingers and hand terminate seriously and even fatally through over-eager and misdirected efforts of the practitioner.

To the surgeon this book is a valuable volume to be added to his library for reference and study.

Chapters, dealing with felons, paronychia, carbuncular infections, abscesses, lymphangitis, tenosynovitis, and fascial space infections are written admirably. These, however, precede in part the chapters on the anatomy of hand and forearm and the research work on injection of the spaces. The arrangement, therefore, becomes confusing to one accustomed to the classic succession of study according to anatomy, pathology, bacteriology —spread, complications, sequelæ, treatment, etc.

The chapters on anatomy and anatomic relations of the spaces are then followed by those on infection of tendon sheaths, lymphangitis, with its complications, industrial infections of the hands—erysipelas, gas-bacillus infections, anthrax infections—sequelæ of hand infections, and finally after-treatment.

Confusion of arrangement is forgivable, however, where gems of common sense and logic are so frequently introduced; viz., the explanation of necrosis of the diaphysis of the distal phalanx in felon, which according to the older view was due to separation of the (rather inseparable) periosteum by exudate. According to the author the necrosis results from edema pressure shutting off the circulation in the lateral digital vessels. In accepting this new view the beneficial results of early felon lancing are easily explainable. Again, the author's method of treating carbuncle, by loosening up the flaps after the conventional crucial cuts, by subdermal incisions, instead of by excision is startling in its simplicity and results. Free drainage is more abundantly established, with little loss of tissue, tending to early granulation and minimal fibrosis. Many similar common-sense procedures are introduced, too numerous for discussion, especially those regarding the action and value of antiseptics and the use of photic therapy.

The original and extensive study of serial frozen cross sections of the hand and forearm, after the injection of fascial spaces, tendon sheaths and bursæ with plaster of Paris, and their revelation by roentgenologic procedures with red-lead injections is unquestionably a valuable research. The results obtained are not to be found in the usual textbooks on anatomy and surgery. Various pressures were applied during these injections, causing, in some cases, rupture of spaces, paralleling the spread of the process in actual disease.

Abundant but not tiresome statistics are given throughout, and prophylactic measures are clearly shown. These, especially, make the book of great value to the surgeon affiliated with industrial institutional work.

Treatment throughout tends toward the conservative, the rational and sane, and is illustrated in its result with many case-record synopses.

The chapter on sequelæ with their treatment, and the invention of numerous mechanical devices for the correction of deformity and reëstablishment of function, all quite ingenious and practical, are features well worth gleaning.

The reader, assisted by numerous résumés, will find the work original, practical, and helpful in its fifth revision, in spite of the apparent confusion of arrangement.

THE NORMAL DIET. By W. D. Sansum, M.S., M.D. Published by the C. V. Mosby Company, St. Louis. Price, $1.50.

This little book of seventy-two pages contains a statement of the fundamental principles of diet for the mutual use of physicians and patients. The text is divided into seven chapters. Chapter 1 is devoted to the caloric requirements of the body; Chapter 2 to the protein requirements; Chapter 3 to the bulk requirements; Chapter 4 to the subject of acidosis; Chapter 5 to the mineral requirements; Chapter 6 to the water requirements; and Chapter 7 to the vitamine requirements. The author has supplied a splendid little book that would be a help to many a patient of sufficient intelligence who is suffering from a nutritional disorder, as well as to the general practitioner in whose care the patient may be.

A TEXTBOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan. Eighth Edition. W. B. Saunders Company, Philadelphia, Pa.

Professor's Jordan's book of general bacteriology has occupied an enviable position for many years, and this

edition, thoroughly revised, in every way maintains the care and skill shown in previous volumes in the presentation of this subject. Intended primarily for students, it is particularly valuable for classroom work, and yet so thoroughly is the subject treated and so well is the clinical application brought in, that it is a book that would be of use to every practicing physician. In this latest edition, new material has been added on the bacteriophage phenomenon, tularema, botulism, scarlet fever, and other subjects in which recent progress has been made. Numerous minor changes also have been made throughout the entire work, bringing the volume up to date. In view of the great importance to the general practitioneer of an accurate knowledge of bacteriology, this complete and accurate textbook would be a valuable addition to every physician's library. The wealth of references make available the general literature on this subject to those who may be interested in pursuing advanced study in any particular bacteriological fields. The index is very extensive and complete, and adds to the usefulness of the book, both for routine class work and for references.

PHYSICAL CHEMISTRY IN BIOLOGY AND MEDICINE. By J. F. McClendon, Ph.D., Professor of Physiologic Chemistry, University of Minnesota Medical School, and Grace Medes, Ph.D., Assistant Professor of Physiologic Chemistry, University of Minnesota Medical School. Octavo of 425 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $4.50 net.

This work is divided into two parts, one *Physico-Chemical*, dealing with mass and volume, the colloid particle, intermollecular forces, electrolytic dissociation, chemical equilibria, and hydrogen ions; the other, *Physiologis*, with radiant energy, anatomical structure and physiologic action, thermochemistry in the living body, colloids in organisms, hydrogen ions in biology, ionic equilibria in blood, osmose, permeability, and surface forces.

The book is small, and contains of only 426 pages, and one is surprised to find 160 of them devoted entirely to a bibliography that seems to be out of all proportion to either the size of the book or the matter contained in the chapters at the ends of which the references appear. Five pages are devoted to preface, introduction, and contents; two to a list of abbreviations; twenty to various tabulations; fifteen to illustrative tabulations; diagrams, etc.; and thirty-one to indices. Thus, only 226 pages of reading matter remains, and at least ten of them are so exclusively devoted to mathematical calculations as to be excluded.

The work is a brief advanced treatise of value and interest only to those already possessed of a thorough knowledge of the mathematical, physical and chemical sciences, and without them much of it is incomprehensible.

DISEASES OF THE BRONCHII, LUNGS, AND PLEURA. By Frederick T. Lord, M.D., Physician Massachusetts General Hospital; Instructor in Medicine, Harvard Medical School. Second edition, cloth, price, $8.00. Pages 745, with 107 engravings.

This book can be studied with pleasure and profit. New diseases of the lungs are described, some of which are probably of rare occurrence, but more usually unrecognized by the physician, which is all the greater reason for their study. Syphilis of the lungs is well considered. The use of the bronchoscope and its technic are described. The chapter on bronchial asthma is full and complete in its history, theories, symptoms, and treatment, except that it does not mention the bronchoscopic treatement of asthma, which seems worthy of trial in selected cases. Proper attention is called to the danger of anaphylactic shock following the injection of diphtheria antitoxin in asthmatic individuals. A chapter of 120 pages is devoted to pulmonary tuberculosis. Experience has shown that the profession needs instruction in the early recognition of this disease. Though some of the chapters on the staining of tubercle bacillus and tubercular reaction are too technical for the general practitioner, it will be a valuable edition to our knowledge. Lobar pneumonia is brought up to date in its treatment and prevention. Altogether, the book is well worth while in a medical library.

LANDIS'S COMPEND OF OBSTETRICS. Revised and edited by Clifford B. Lull, M.D., Philadelphia. Tenth edition. Philadelphia: P. Blakiston's Son & Co. Price, $2.00 net.

Among the additions to the tenth edition of this valuable compend on obstetrics may be found a detailed technic of the Potter method of podalic version and of cesarean section, the Reuben test for artificial pneumoperitoneum, Kieland forceps (which should be illustrated), the new method of disinfection of the blood stream in puerperal sepsis, placenta acreta, anesthesia in labor, and the treatment of toxemia in pregnancy.

PERSONAL AND COMMUNITY HEALTH. By Clair Elsmere Turner. 426 pages. Published by: The C. V. Mosby Company, St. Louis.

This work fully meets the purpose for which it was written—"for the student at the university, college, or professional school." The subject matter is presented in an unusually clear and succinct manner. No radical ideas are expressed, the author being very rational in his conclusions and safe to follow in his recommendations. It could well be used as a textbook in high schools, preparatory schools, and general college work. It can also be highly recommended to health officers in municipalities, and, as a suggestion, a book such as this should be supplied to every employee of a health department, either municipal or state, in order to afford an intelligent comprehension of the purpose of preventive medicine as it is understood to-day.

THE INTERNATIONAL MEDICAL ANNUAL. A Year Book of Treatment and Practitioner's Index. Forty-third year, 1925. New York: William Wood and Company. Price $6.00.

This compilation of all that is good and new in medicine by a group of distinguished English writers is truly a "Dictionary of Practical Medicine." Medicine is here used in its broadest sense, meaning medicine and surgery with all its allied specialties.

Fenwick describes a new sign in abdominal sepsis. He says there is a distinct odor to the tongue. This smell often approaches a distinct fecal odor. It is invariably present in septic abdominal conditions and not in others. French speaks of giving large amounts of hydrochloric acid to combat the achlorhydria of pernicious anemia. Six drachms are mixed with a pint and a half of water, flavored with orange juice and sugar, the whole being taken every day. Wynn mentions "Antimicrobum" in the treatment of acute pneumonia. In twenty-five cases the mortality was four per cent.

Sampson says the evidence is conclusive that bits of malignant tissue from the endometrium escape at times through the tubes and give rise to malignant ovarian tumors. He observes that curettage and manipulation of the uterus is a great factor in forcing particles through the tubes.

Approval is set upon the present tendency to avoid surgical interference at the height of an illness, as in gall-bladder cases, suppurative salpingitis, appendicitis, etc.

This excellent work covers a vast amount of material in a fairly small volume and is an addition to any one's library.

(Continued on page xiv.)



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BOOK REVIEWS

(Continued from page 52.)

WILLIAM CRAWFORD GORGAS, HIS LIFE AND WORK. By Marie D. Gorgas and Burton J. Hendrick. Philadelphia: Lea and Febiger, 1925.

"A riderless horse walked up Ludgate Hill the other day behind its sleeping master, and if a horse can feel and know what happens, its heart must have been breaking—unless there came to it new strength in the pride it felt in the sight of its master sleeping under the Stars and Stripes on his way to St. Paul's.

"For what was happening up Ludgate Hill was a rare and stirring thing. I looked down from the windows of the little House with Green Shutters in the very shadow of the dome, and I thought that here, indeed, was a public opinion of which our London, and our country, and all the entire world, might well be proud. For here was no great Englishman, no great Briton, going to his rest; here was a ragged, barefoot boy of Baltimore being carried to St. Paul's after his life's work was done.

"He had done for the world one of the greatest things that an American brain has ever done: he made the Panama Canal after thousands of people had died in the attempt.

"There were thousands of men and women and children standing still, there were hundreds of men in khaki passing by, and there were ambassadors and other great people, and the lonely woman who was on her way with her hero to conquer disease in Peru when death took him from her. And there was the riderless horse.

"All these came up Ludgate Hill, and as the sun poured down on this ancient way, our hearts and ears throbbed with the solemn music of the *Dead March*, and we knew that we were looking on the passing of a man whose name would shine for ages in the history of our race.

"It seemed good that death should find him here, for so came our opportunity to do a great man honour. He passed through the great door through which the sun streams into the nave of St. Paul's, and there he lay with Nelson and Wellington and all that mighty host who came this way and passed into the universe.

"They will take him to his own land, but in truth he belongs to us all. He was one of Life's great helpers, for he cleaned up foul places and made them sweet, and now, as they said of Lincoln, 'he belongs to the Ages.'

"This funeral of a British Major-General, in St. Paul's Cathedral, was the highest honour that Britain could pay a distinguished American. Its beauty and its solemnity will never be forgotten by those who witnessed it. But Gorgas's own country also gave him its greatest honours. The body lay in state for four days in Washington, and, at the services in the Church of the Epiphany, all branches of the Government and most foreign countries were represented.

"The General was buried on one of the most beautiful slopes of Arlington—certainly an appropriate resting place for a man whose thoughts and activities, from his earliest days, had been associated with the American Army."

These eloquent words fittingly tell the final triumph of one of the great Americans, and serve to illustrate the beauty and pathos with which the author of this charming and intimate biography tells the life and work of herself, as well as of our hero, Gorgas.

Not only is it the story of Gorgas; it is also an epic of the successful conquest of yellow fever. It is in no sense technical, and is inspiring reading for both the physician and the layman, highly to be recommended from every point of view.

(Continued on page xvi.)

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BOOK REVIEWS

(Continued from page xiv.)

MEDICAL EDUCATION. A Comparative Study by Abraham Flexner. 334 pages. The Macmillan Company, New York, 1925. Price, $2.50.

Mr. Flexner has made a "comparative study of medical education in certain European countries and America against the background afforded by the general educational and social systems of the respective countries." The author has been interested in higher education for many years, and has accomplished much good work in raising general standards of education, especially along medical lines. He defends his thesis, and states "I am myself alone responsible for the position taken in matters of opinion, and for such errors of fact as still remain." His hereditary subconsciousness, if not openly avowed leaning toward the Prussian idea of education has led him for the past two decades to mold the general educational thought in America along German lines that had dominated the picture before the World War. He contrasts "medical education and medical practice" as carried on by the French, the Germans, and the Americans, with a subtle emphasis leading toward recommendation of the German training.

Doubtless this line of gravitation had much to recommend it before 1914, but since 1918 opinions must be revised, as the German argument has not been proved. America is cosmopolitan, and not a primary unit such as obtains in France and Prussia, so that attempts to foist a single line of imported thought from any foreign country overlooks the fact that it must go through the American melting pot and become adjusted to the American idea, so that by the time it becomes available for use in this country it has been largely stripped of its original form and has been blended in such manner that the original French, German, or other thought does not stand out so prominently. Medical education in America has been so standardized and highly specialized that it has begun to show a reaction, and we venture to predict that the next edition of the book will show a great change in viewpoint. The work is very valuable and worthy of careful study from the pedagogic, administrative and national standpoint.

SYNOPSIS OF SURGERY. By Ernest W. Hey Groves, M.D., F.R.C.S., Professor of Surgery, Bristol University, 7th Edition. Cloth. Pp. 671, with 149 illustrations and 13 plates. Price $5.00. New York: William Wood and Company, 1925.

The title of this small volume is fully descriptive, the work representing the author's outline for preparation of students for examination in surgery. For a brief review of the main points in surgical symptomatology, pathology, diagnosis, and treatment, the work is hardly excelled in the English language, as evidenced by the fact that it is now in its seventh edition. The book represents the best type of synoptical style, and while necessarily tabloid, it is not sketchy but is illustrative throughout of the intense practicality for which the British are noted. The paragraphs on treatment are thoroughly modern, and with few exceptions accord with American methods.

In addition to the usual chapters included in works on general surgery, there are chapters on orthopedic, neurological, rectal, and urological surgery, but the work does not include gynecology, otolaryngology, or ophthalmology, or dental, plastic, or cosmetic surgery. The typing is good, the illustrations really illustrate, and the index is complete. The volume concludes with an excellent chapter on surface markings, with 13 valuable plates. For the purposes for which the book was written it can be most heartily recommended.

(Concluded on page xviii.)

Cook County, Illinois, has authorized the formation of a county public health unit to take care of communities too small to have their own health service.—*Medical Journal and Record.*

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BOOK REVIEWS

(Concluded from page xvi.)

INTERNATIONAL CLINICS. Volume II. Thirty-fifth Series, 1925. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Pages 311. Published by J. B. Lippincott Company, Philadelphia.

A series of seventeen medical portraits by Tait McKenzie is of unique interest. The "Discussion of the Present Status of Affections of the Kidney," by Dr. I. W. Held, occupies 48 pages and reviews the knowledge of this subject in good style. Matas has a good article on "The Systemic or Cardiovascular Effects of Arteriovenous Fistulæ," covering 48 pages, with a complete bibliography. "Dysentery" is well discussed by George R. Callender, in a paper of 37 pages, also carrying a good bibliography. Fifty-seven pages are devoted to diagnosis and treatment, covering new growths of the digestive tract, progress in medical practice and abdominal diagnosis. Other papers contribute to the general value of this number, which is recommended for reading.

SURGICAL CLINICS OF NORTH AMERICA. Mayo Clinic Number, June, 1925. Philadelphia and London: W. B. Saunders Company.

This issue contains a wealth of material. There are case reports from all departments of surgery at the Mayo Clinic. It is well worth the time of any surgeon or medical man to look over this volume and gather from it suggestions and ideas in the management and treatment of many varied conditions.

NEW AND NONOFFICIAL REMEDIES, 1925. Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1925. Chicago: The American Medical Association, 535 N. Dearborn St., Publishers.

Physicians cannot dispense with the newer remedies that are being brought out, yet they can neither judge them on the basis of the manufacturers' claims nor have they the opportunity or time to determine their merits. For this reason every physician should possess a copy of the annual volume of New and Nonofficial Remedies which the Council puts at his disposal.

AMERICAN ILLUSTRATED MEDICAL DICTIONARY (DORLAND). Thirteenth edition, revised and enlarged. Large octavo of 1,344 pages with 338 illustrations, 141 in colors. Containing over 2,500 new words. Philadelphia and London: W. B. Saunders Company, 1925. Flexible binding, $7 net; thumb index, $7.50 net.

This is one of the best medical dictionaries on the market, and is heartily recommended by the reviewer.

Joshaway Crabapple says: "The most dangerous part of an automobile is the driver."

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BY THEIR HEALTH YE SHALL KNOW THEM*

WILLIAM D. HAGGARD, M.D.
NASHVILLE, TENNESSEE

Mr. President and Members of the Medical Society of the State of Pennsylvania:

To be permitted to speak to one of the largest and most progressive constituent societies of the American Medical Association, and especially on the seventy-fifth anniversary, is a very great privilege and a signal honor to which I am not insensible.

I have been greatly interested in the history and accomplishments of your society, and particularly its present proud position in this country. It is a great achievement to enroll over 7,000 members. The parent association is much gratified in recognizing the enormous influence for good which you are wielding. You are likewise members and recognize the fealty you owe to the mother association. We are pleased that the *Journal of the American Medical Association* is the largest and most influential medical journal published in the world today. You may not know that nearly 5,000,000 copies of this *Journal* are printed annually, and that the *Journal* is reproduced weekly in Spanish for the South American countries and Spanish-speaking peoples.

You are doubtless familiar with the fact that some of the best special journals are published by the Association—the *Archives of Medicine*, the *Archives of Surgery*, the *American Journal of Children's Diseases*, and the newer publications, the *Archives of Dermatology and Syphilology*, and the *Archives of Otolaryngology*, and the new *Archives of Pathology*. You should be greatly interested in the lay publication known as *Hygeia*, which is doing so much for the dissemination of reliable health information throughout the United States. Most of the so-called health and physical-culture journals are of the cheapest variety and of very questionable ethics. The American Medical Association is at great expense every year to give to the reading public generally, and to the profession particularly, this authentic and splendid publication on health. *Hygeia* is not only for your own reading, which will be pleasurable and profitable, but for distribution to the public of dependable and wholesome information about the paramount problem of health.

We are living in the Golden Age of medicine. We have seen the great scourges and plagues wiped out. We have witnessed the era of the discovery of the cause of most of the infectious diseases. This last year alone has been the greatest in the history of medicine, for it has shown the lowest mortality rate ever attained; the year nineteen twenty-four was the healthiest year the world has ever known. This is due to the subjugation of the pestilences. We no longer have many thousands of people dying every year of typhoid fever. In the last year its mortality rate has dropped 72 per cent, and we no longer fear this terror of mankind. Tuberculosis has been so greatly reduced that the mortality rate has decreased more than 50 per cent. We have added something like fifteen years to the span of life in the last few decades, so that now the average span of life is fifty-five years of age, but still it is not enough.

Sir William Osler has most beautifully said:

"For countless generations the prophets and kings of humanity have desired to see the things that men have seen and to hear the things that men have heard in the course of the wonderful nineteenth century. To the call of the watchers on the towers of progress, there has been one sad answer, 'The people sit in darkness and in the shadow of death.' Politically and socially and morally the races improved, but for the unit, for the individual, there was little hope.

"Cold philosophy shed a glimmer of light on his past. Religion in its various guises illumined his sad heart, but neither of them availed to lift the curse of suffering from the sin-begotten son of Adam. In the fulness of time, long expected, long delayed, at last science emptied upon him, from the horn of Amalthea, blessings that cannot be enumerated, blessings which have made the century forever memorable and which have followed each other with a rapidity so bewildering that we know not what next to expect."

*Address delivered before the General Meeting of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

Three quarters of a century ago, chronic diseases, so-called, occasioned only one sixteenth of the deaths. The others, fifteen sixteenths, were mostly from infections. Now, on account of the great curtailment and prevention of infection, chronic diseases constitute about one half.

The saving of infants has greatly increased the total span of human life. Yet after the age of 45, life expectancy is decreased and really less than it was ten or twenty years ago. It is doubtless due to the great stress and strain of modern civilization with all its complexity, and should have the careful scrutiny of physicians, both as to the individual and as to the nation. The problem is the fitting of middle-aged men to their environment, and, by proper health education, the changing of environment in order to promote longevity and well-being. Recent modern life has almost resembled hysteria, and it is for the sane medical man not only to avoid emotional complexes but faithfully to steer his clientele by personal example and precept away from its maelstrom.

The present infant-mortality rate in the United States is 76 per thousand, which is a reduction in six years of 24 per cent. In regard to the intestinal diseases of childhood, the decrease has been much greater than 24 per cent. In fact, it is exactly 33 per cent, which is wonderful. The reduction in pneumonia and respiratory diseases is about one fifth. The figure "76 per hundred thousand" comprises the Philippines, which have a death rate of 358 per thousand. This shows what education and sanitation and hygiene can accomplish. Economic conditions have a great deal to do with mortality. Infant mortality is three times as great among the poor as among those whose income, roughly speaking, is three times as great.

But we have not done enough for the middle-aged man and woman. Their mortality rate is just as high. The degenerative diseases are the things we must now battle with. We have conquered most of the dread diseases; we, in our profession, know that these are almost annihilated. But what of the man in middle life? What of Bright's disease and the heart diseases? What of the nephritides, and the cirrhoses? What of the pneumonias? These afflictions still destroy more lives than all other types of morbidity, although the eradication of the focal infections will go far to prevent many of these conditions.

But it remains for us to apply our knowledge, so the American Medical Association has taken its stand in support of a method whereby the man of middle life may be overhauled, his infirmities anticipated, and his incipent diseases recognized, to the end that he may not only live out the anticipated span of life, but may live to sixty or sixty-five.

Of the applicants for life insurance, 15 per cent are refused—the man with albumin, the man with diabetes, the man with the cardiovascular lesion. Those are the diseases which we must now endeavor to forestall.

What does it profit a person to neglect his own physical condition and the wonderful mechanism of his body, with its anatomic, physiologic, and pathologic potentialities? All other machinery is inspected at regular intervals. Most people are cautious enough to be unwilling to ride on an elevator, steamship, or railway train that has not been carefully inspected; yet we have ignored the tremendous importance of the periodic and thorough physical examination of our patients and even of ourselves.

The advantages to the profession are manifold. In the first place, it means that a careful and thorough physical examination should be made routinely of each individual who comes to us, regardless of his symptoms. While this has been a desideratum and the practice among many of our profession, it is far from being universal. Did not Frank Billings, the dean of medicine in America, say that the greatest curse in our profession was the neglect to make a thorough physical examination? He said we have a pleasant conversation with the patient and a scrutinizing inquiry but an imperfect examination.

If this plan could become universal, it would be the best postgraduate course in physical diagnosis that our profession as a whole could take. It would mean that many of them would have to improve their methods and practice so far as the thoroughness of the routine was concerned. It would mean more laboratory work and more exact observation, and not the least of all would be the value of the interpretation of the findings, which brings into play the best judgment and ability of the practitioner. It would establish a system of records which, if not already started by the doctor himself, would be invaluable.

We must be prepared for it. If every individual would apply for this health examination tomorrow, it would find the profession in many states unprepared, unsold to the idea, and perhaps unsympathetic. A little thought will show that unless it is taken up by the regular profession it can be grossly misused and commercialized.

If preventive medical practice or preclinical medicine, as suggested, is good for all well individuals and if it can be properly handled only by the profession regularly organized, is it not

essential for the doctors themselves to be the leaders and personally to undergo these examinations? How many of us have done that? How many of us have really had any sort of examination since the war? How many of us have had a real thorough examination even in case of illness?

So the slogan is, have a thorough medical examination on your birthday. Some of us perhaps do not have as many birthdays as we used to, but this is not the only anniversary that we may celebrate. Nowadays, when the divorce coupon comes with the marriage certificate, one can have the health examination on his marriage anniversary, which will make them come oftener.

It is surprising the lack of care we give our bodies and the lack of intelligence we sometimes display in choosing persons to care for the delicate machinery of this most wonderful of all mechanisms, the human body, which is the temple of the immortal soul.

What would you think of a man who would entrust the many intricate things that go wrong in the engine of a motor car to a person who would profess to remedy anything that was wrong with it by rubbing it on the outside? Still, persons who profess to be intelligent, and who really are in other decisions of life, will sometimes leave the care of the treatment of the disease of their bodies to most incompetent individuals who make great pretense and propose to cure the most complicated diseases by adjusting the spine, rubbing on the outside, or reading out of a book and telling people that the disease they are suffering and dying from does not exist.

Isn't that a terrible thing to do for a little child that is strangling from the diseased membranes that clog the throat in diphtheria? It is a hard thing to try to enlighten distressed though misguided parents in the agony of their sorrow, and tell them that untruth and dogma allowed their child to die when intelligent, prompt, scientific administration of antitoxin would have saved its life. It would be cowardly, if it were not due to ignorance, for anybody to attempt to give spinal adjustments, so-called (which really never did, never can, or never will adjust anything), for a ruptured appendix or for a tumor on the interior of the body that is fast becoming malignant.

The real case against the cults, fads, sects, and isms in human sickness is their inability to understand the many intricate causes of disease, its prevention, and its control by scientific sanitation, and the untenable belief of each separate cult that all the diseases, whether of the mind or body, can be cured by a single process, this process differing with each sect. They will treat anybody that will hold still—and one is born every minute. The popularity of the healing cults is due to those of an unstable, impressionable nervous system, who are always looking for some easy way of treatment, particularly if it is mysterious. They are unwilling to purchase health by rational means, but want some mystical or miraculous occult force to be invoked in their aid.

The aversion to publicity in medicine is doubtless founded on the feeling that science needs no defense; yet it was said of Huxley and Darwin that they had to fight the battle of Science with the public with one hand, while they labored in the laboratory with the other. Progress is a series of battles. It is never won except by the repeated launching of offensives. It must ever be fought for, and with the cudgels of Truth. The fight is not for the profession, but after all, for humanity. The world should know that if society is to be saved, it is not by the charlatan, but by the scientist, who is willing laboriously to burn the midnight oil and labor for a generation to carve a stone that may adorn the temple of Science. A campaign of publicity must be dignified, unswerving, and repeated without ceasing—education and reëducation. The story of medicine, its heroes, its martyrs, its great discoveries, must be forcefully told.

As the earlier teachings of the traditions of our ancient profession have been handed down from generation to generation by word of mouth, so the great accomplishments of present-day medicine—the increasing span of human life, the mitigation of suffering, the inculcation of the laws of physiology, and the fundamentals of health—should be known—broadcasted by those who know. We still have a burning message to deliver to our fellowmen—the truth about the prevention of the many ills to which flesh is heir, and the protection of their precious lives.

The Kingdom of Health is at hand.

Why not publish the names of doctors who are delinquent in the payment of medical society dues, just as they post the names of delinquents in country clubs or social organizations? Perhaps throwing the limelight upon the shortcomings of doctors will lead them to be a little more careful about observing their obligations.—*Jr. Ind. St. Med. Asso.*, July, 1925.

It is well known that most patients with chronic dyspepsia do not have organic gastric disease, and that the dyspepsia of adults is more often the result of diseases of the gall bladder than of ulcers of the stomach or duodenum, and association of the two conditions must be kept in mind.—*Judd.*

CARBON-MONOXID POISONING AND ITS DIAGNOSIS*†

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Carbon-monoxid poisoning is usually encountered as an acute condition resulting from breathing atmosphere containing that gas. It is characterized clinically by headache, dizziness, muscular weakness, increased respiration which later becomes irregular and depressed, collapse, unconsciousness, and death. Anatomically it is characterized by temporary changes in the red blood cells due to a combination of the carbon-monoxid with the hemoglobin and, in prolonged severe exposure, degenerative changes in the various tissues of the body, especially those of the central nervous system.

The human race has probably been exposed to this gas since man first began using fires in confined or sheltered places. Dr. L. Lewin[1] has traced reference to the action of this gas back through the ancient Greek and Latin literature and concludes that this poisoning "of all stands alone in its close relation to the history of the civilization of mankind." His quotations from the literature indicate that this poison was a frequent cause of death by accident, by suicide, and by use as an instrument of punishment or torture. He found a statement in Livius that during the second Punic War, about the year 200 B. C., "the commanders of the allies and other Roman citizens were suddenly seized and fastened in the public baths for guarding, where the glowing fire and heat took away their breath and they perished in a horrible manner." Julian the Apostate (331-363 A. D.) in one of his satires tells how he was almost suffocated while in winter quarters in Paris. Owing to the severe cold, he had a small fire brought into his room "to prevent so much moisture from exuding from the walls" but there was "still a vapor coming from the walls" which affected his head and put him to sleep and he was carried out unconscious. Symphoranus Campegius, who lived in the fifteenth century, tells of two merchants, traveling toward Lyon in the winter time, who stopped at an inn for the night and, in order to warm the room, kindled a fire in the fireplace and went to bed. The next morning they were found dead. The attending physicians attributed the cause of death to the coal vapor.

It would appear that carbon-monoxid gas has always been a favorite means for committing suicide. Plutarch reported that Catalus, after it was decreed by Marius that he should die, shut himself in a room and suffocated himself in the bath with the vapor from many glowing coals. In the year 68 A. D., Seneca, after several attempts at suicide, finally ended his life by charcoal vapor. The Paris records[2], for the nine years from 1834 to 1843, show a total of 4,595 deaths due to suicide, of which 1,432 were accomplished by means of carbon-monoxid. Suicide by means of the charcoal brazier became so popular in France that even writers of fiction such as Dumas, Victor Hugo, and Eugene Sue made frequent reference to it.

According to Lewin[3] many cases are recorded in ancient literature of the use of carbon vapor as a method of punishment. At the time of Cicero (106-43 B. C.) poisoning through smoke as a method of punishment seems not to have been unusual, and in the time of Septimus Severus (Emperor 193-211 A. D.) and Diocletian (Emperor 284-305) many of the martyrs died by this means, "the greenest possible, most smoke-producing wood being used for such purposes." About the year 358 A. D. the Empress Fausta, who had had her stepson, Cæsar Crispus, killed by poison, was punished by suffocation with charcoal vapor in the bath.

Marsilius Ficinus, who lived in the fifteenth century (1433-1499), believed that all coals easily caused headache but that greater bodily harm would be occasioned by extinguished coals, while Mercurialis was of the opinion that bad coal was the source of the trouble.[3]

The very important fact that no bad odor warned of danger from this gas was first mentioned by Baconis de Verulamio in 1648, and unlike most of his predecessors he was careful to speak of "vapor carbonum" instead of "fumus." However, van Helmont was the first investigator to call such fumes "carbon gas." About 1732 Boerhave made probably the first animal experiments with carbon-monoxid and found that all red-hot organic matter, as wood and coal, gave off a vapor which would quickly kill an animal shut up in a confined space.[3]

Lavoisier knew that carbon-monoxid burned to carbon dioxide, but was unable to fit carbon-monoxid in satisfactorily with his theory of oxidation until in 1800 Cruickshank showed that the gas was nothing but a "gaseous oxide of carbon." As late as 1812 the *Dictionaire des Sciences Médicales* of Paris stated that "it has not yet been definitely determined to which of these gases (carbon-monoxid or hydrogen sulphid) are due the pernicious effects of vapor from charcoal."[4]

No race nor nationality is immune or has a

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†From the United States Bureau of Mines and the Philadelphia Health Council.

special tolerance for carbon-monoxid. From data at hand, it is known that both sexes are about equally susceptible. All ages are affected, but small percentages seem to have a more deleterious effect upon young animals, and this is possibly true of children. Exercise, high temperature and humidity, and low oxygen content of an atmosphere increase the degree of poisoning for a certain concentration of carbon-monoxid. Anything that lowers the physical fitness of a man, such as illness, overwork, or excesses of any kind, exaggerates the effects. More cases of poisoning from carbon-monoxid occur in coal mines in the cold months of the year (because explosions take place more frequently during that period), also in homes where gas is used for heating purposes, and in garages from accumulation of automobile exhaust gases due to poor ventilation.

OCCURRENCE OF CARBON-MONOXID POISONING

The occurrence of carbon-monoxid poisoning has increased in frequency through the years until at the present time it is found in almost every home as well as in many industries. Kober and Hayhurst[5] in their recent publication list twenty-four possible points of contact with carbon-monoxid in industrial life. The most common of these are:

1. Automobiles, from exhaust gas in closed cars and garages.
2. Battleships, in the turrets during gun firing and in the furnace rooms where the effects of carbon-monoxid are probably often mistaken for heat prostration.
3. Brass foundries, during melting and pouring of the metal.
4. Celluloid industry, during ignition and detonation.
5. Coal tar, in processes of distillation.
6. Explosives, in mines, in battle, and in any place where explosives are used.
7. Fire fighting, incurred by city firemen and policemen, also boiler firemen.
8. Iron, steel, and allied industries, from leaky blast furnaces, gas valves, or mains, especially when workmen are cleaning out the furnaces.
9. Kilns, from fumes in the vicinity of burning kilns.
10. Mines, during mine fires, explosions of gas or coal dust, and in blasting operations.

Analyses obtained from the Bureau of Mines gas laboratory at Pittsburgh indicate the approximate amount of carbon-monoxid in gases which may exist at several common sources of poisoning:

TYPE AND SOURCE	*CO by vol. per cent*
Mine explosion, immediately after dust explosion (experimental)	8.0
Mine explosion, 1 day after explosion in coal mine	1.0
Mine fire	1.0
Blasting with 40-per-cent gelatin dynamite, 7 minutes after shooting 100 sticks	1.2
Blasting—products of combustion of black blasting powder	10.8
products of combustion of 40-per-cent nitroglycerin dynamite	28.0
products of combustion of 40 per-cent ammonia dynamite	5.0
TNT	60.0
Blast-furnace stack gas	28.0
Bessemer furnace gas	25.0
Crucible furnace; gas fuel melting Al-Cu-Sn alloy	5.5
Arc furnace melting aluminum	32.2
Cupola gas	17.0
Coke-oven gas	6.0
Coal gas	16.0
Carbureted water-gas	30 0
Blau gas	40.0
Producer gas from coke	25.0
Producer gas from oil	5.0
Distillation coal-oil mixtures	7.4
Fuel gas	30.0
Gas range burning natural gas	0.2
Room heater burning natural gas	0.5
Automobile exhaust gas (average of tests on 101 cars of all types)	7.0
City fire (black smoke from burning buildings)	0.1
Insulation burning in electric arc	0.5
Furnace gas of small house-heating hot-water-system	1.0
Railroad locomotive stack gas	2.0

This table shows that room-heaters and gas ranges burning natural gas produce carbon-monoxid. This has resulted in the poisoning and death of many people and is still doing so on account of improper design, adjustment, lack of ventilation and venting of the stove to allow the escape of products of combustion.

Records from the State Department of Health of Ohio, which are said to be incomplete, show that 64 deaths and 113 partial asphyxiations occurred in that State during the winter of 1922-23; 55 of the deaths were due to gas heaters and stoves, and five to exposure to automobile-exhaust gas. In New York City several hundred deaths, suicidal and accidental, occur each year from carbon-monoxid poisoning, due chiefly to domestic use of gas where sufficient care as to proper use of appliances and ventilation is not taken.

As an example, in another city a man was found unconscious in bed in his room with a gas heater burning. The heater was not connected with a flue, and the room was closed. When found, his blood showed about 80 per cent of the hemoglobin combined with carbon-monoxid. This man was given artificial respiration, oxygen was administered, and he lived. After-treatment was given in a hospital. The conditions to which he was exposed in his room were duplicated as nearly as possible. After four hours the air of the room was found to contain 0.256 per cent of carbon-monoxid. While this example illustrates the importance of ventilation

and of venting gas stoves by a flue so that all products of combustion will be carried outside, all gas stoves should be of correct design and adjustment for the fuel burned.

As an example of another type of accident, the wife of a doctor who had been doing cooking, and later the cook also, suffered daily from headaches, a feeling of tiredness, and other symptoms, which were found on examination to be due to a moderate poisoning from carbon-monoxid as a result of improper adjustment of the gas range without sufficient ventilation and venting. Correction of these conditions relieved the symptoms which had been recurring daily for some weeks.

Cases similar to those described above occur with the use of either natural or artificial gas. The table shows that artificial gas may contain anywhere from 10 to 30 per cent of carbon-monoxid. If the connections with either heaters or lights are poorly made, an added danger is introduced. The use of rubber tubing has been especially emphasized by many investigators as causing poisoning and often death of those exposed, due to deterioration of the rubber and to ill-fitting connections.

Automobile-exhaust gas contains an average of 7 per cent of carbon-monoxid. Recently an experiment was carried out at the Bureau of Mines experiment station in which an ordinary touring car was placed in a brick garage having a capacity of approximately 3,000 cubic feet. A dog was placed upon the driver's seat and the engine allowed to continue running at an idling speed, which is slower than the average motorist would use for warming up his engine. The doors of the garage were closed, and after the engine had been operated for 20 minutes the dog lost consciousness and fell to the floor. The air at this time contained 1.3 per cent of carbon-monoxid, which is sufficient to cause death within a few minutes. At the end of two hours the percentage of carbon-monoxid in the garage air was 2.1. This percentage will cause death almost instantly. When it is necessary to warm up an engine or to make adjustments with the engine running, all the doors and windows of the garage should be open, or, better still, the car should be driven into the open air where the poisonous gases will be dissipated.

PATHOLOGY

The most characteristic change observed in carbon-monoxid poisoning is the cherry-red color of the blood. Some persons have rose-red spots on the face, neck, breast, and limbs, and others dark red or violet, but the nonappearence of such spots should not be taken as indicating the absence of carbon-monoxid poisoning. The coagulating power of the blood is not changed.[6] Reddening of the digestive tract and peritoneum, with echymoses, effusions, or extensive hemorrhages, is present in many of the cases.

Carbon-monoxid exerts its extremely dangerous action on the body by displacing oxygen from its combination with hemoglobin. Hemoglobin, the coloring matter of the blood, normally absorbs oxygen from the air in the lungs and delivers it to the different tissues of the body. The affinity of carbon-monoxid for hemoglobin is about 300 times that of oxygen. Because of this, even when only a small amount of the poisonous gas is present in the air breathed, much of the hemoglobin combines with carbon-monoxid and cannot keep up its usual work of carrying oxygen to the tissues. These, because of the lack of oxygen, cannot do their work properly. If the condition continues long enough, the tissue cells become damaged, the injury to which may be permanent even if the patient survives.

At times, degenerative changes are found in the walls of the blood vessels. There are no marked characteristic changes in the respiratory passages, except those due to blood changes. However, it is noteworthy that viscous, thick, frothy mucus, or foreign matter, such as stomach contents, may be found in the larynx, trachea, and bronchi. In the brain, hyperemia, edema, and hemorrhages are found in a majority of the cases. The ventricles and arachnoid space contain a copious amount of watery or blood-tinged effusions. Foci of degeneration frequently have been found. The pia of the spinal cord may be markedly hyperemic. Localized edema and punctiform hemorrhages may also be present. Degeneration has been found in the cells of the anterior horn in the cervical and dorsal cord.[7] However, after the removal of the carbon-monoxid has been effected, there is no indicated destruction in the oxygen-carrying capacity of the hemoglobin and it resumes its normal function of carrying oxygen to the tissues.

SYMPTOMS

The symptoms of carbon-monoxid poisoning may be divided into two stages, the first being a stimulation covering the period beginning with normal and ending in syncope, and the second a paralysis of the central nervous system beginning in syncope, extending through coma, and ending in apnea.

In the first stage there is a feeling of tightness across the forehead, dilation of superficial vessels, headache (frontal and basal), throbbing in temples, weariness, weakness, dizziness, nausea

and vomiting, loss of strength and muscular control, increased pulse and respiration rates, collapse. All of these are greatly increased and accelerated with exercise on account of the additional need of oxygen in the tissues. Men at rest have often been exposed to carbon-monoxid all day without noticing any marked ill effects, but on walking home or exercising have experienced severe symptoms, even to unconsciousness. It is seldom that all of these symptoms are experienced by the same individual.

In the second stage there is increased pulse and respiration, fall of blood pressure, loss of muscular control, especially sphincters, loss of reflexes, coma usually with intermittent convulsions, irregular respiration, slowing of pulse, slow and shallow respiration, cessation of respiration, death.

With a given blood saturation, the character and severity of the symptoms acquired during exposure depend upon the time required to attain that saturation and the degree of muscular activity, as well as individual idiosyncrasy—in other words, the extent of oxygen deprivation.

Furthermore, the number of symptoms decreases with the rate of saturation. With high concentrations the victim may experience but few (weakness and dizziness) of those given under the first stage of symptoms. If a given saturation has been acquired by a long exposure to a low concentration, the symptoms and after-effects will be a great deal more severe when a given saturation has been acquired than by a short exposure to a high concentration.

Just as muscular activity increases the number and accentuates the character of the symptoms during exposure, it will bring out latent symptoms after exposure. In general, the predominating symptoms accompanying various percentage saturations are as follows:

Percentage of Blood Saturation	*Symptoms*
0-10	No symptoms.
10-20	Tightness across forehead; possible slight headache, dilation of cutaneous blood vessels.
20-30	Headache; throbbing in temples.
30-40	Severe headache, weakness, dizziness, dimness of vision, nausea and vomiting, collapse.
40-50	Same as previous item with more possibility of collapse and syncope, increased respiration and pulse.
50-60	Syncope, increased respiration and pulse; coma with intermittent convulsions; Cheyne-Stokes's respiration.
60-70	Coma with intermittent convulsions, depressed heart action and respiration, possibly death.
70-80	Weak pulse and slowed respiration; respiratory failure and death.

AFTER EFFECTS

The after effects of carbon-monoxid poisoning range from practically none to headaches, muscular pains, long periods of unconsciousness, loss of strength, and mental derangement, such as loss of memory, paralysis, and temporary blindness. In nearly all cases these clear up in a day or two, but they have extended over months.

As was true of the symptoms, the possibility and severity of these after effects depend upon the duration of oxygen deprivation, personal idiosyncrasy, and the physical condition of the victim before exposure.

Slight exposures to high concentrations cause far less tissue damage than long exposures to lower concentrations, the effect of oxygen deprivation being additive. With some men there is a specific tolerance to this deprivation, and they may experience few or no after effects from exposures which are serious to fellow workmen. It is very probable that much of this idiosyncrasy is due to previous health condition, and that many diseases, such as cerebral arteriosclerosis, syphilis, and acute alcoholism, are contributory to serious after effects.

DIAGNOSIS

A diagnosis of carbon-monoxid poisoning is usually made from a correlation of the history of possible exposure with the symptoms produced. But this is not always positive evidence, because carbon monoxid exists at unsuspected places, and the symptoms produced are common to other causes. The only infallible test is by examining the blood for carbon-monoxid hemoglobin.

Methods have been devised for the quantitative analysis of carbon-monoxid when present in blood and in air in quantities large enough to be dangerous to the health and safety of a person. Some of them are suitable as to accuracy, yet all have some objectionable features in that they require elaborate and expensive apparatus, and special technic and training on the part of the analyst, or are too delicate or cumbersome for field use.

The Bureau of Mines, in its investigations of carbon-monoxid, has developed a method and apparatus that can be immediately taken to the scene of a poisoning, and which will give accurate results as to the carbon-monoxid in the blood and in the air. The method has been used frequently during the past two years in the investigation of fatal and nonfatal cases of poisoning from gas stoves, automobile-exhaust gases, and blast-furnace gas; also in the analysis of air in vehicular tunnels and in mines after blasting and

during rescue operations after a mine explosion. It has been used in the laboratory for experimental investigation of carbon-monoxid poisoning of men and animals by the writers and by other investigators both in America and in foreign countries. In all of this work the method has been found reliable and accurate.

According to Wetzel's qualitative test,[8] when normal blood, diluted 1:4 with water, and shaken with an equal volume of 1-per-cent tannic acid, is allowed to stand for 24 hours, a gray suspension is formed, whereas blood containing HbCO (carbon-monoxid hemoglobin) remains carmine red. This color reaction is sensitive and fairly stable and when once formed changes so slowly that the authors decided to adapt it to quantitative purposes. The specimen of blood suspected of containing HbCO is, after chemical treatment, compared to a set of standards.

As the result of a rather extensive series of tests, the procedure finally adopted for making standards from blood is as follows: By use of a modified Keidel tube, or any intravenous apparatus, 5 c.c. or more of human blood (animal blood, especially beef blood, may be satisfactorily used if obtainable) is drawn and kept from clotting by the addition of 0.5 gram of potassium citrate ($K_3C_6H_3O_7H_2O$), per 10 c.c. of whole blood. The blood thus obtained is divided into approximately equal parts, one of which is immediately diluted 1 in 10 with distilled water, while the other is saturated with 3 to 5 per cent of CO gas, then diluted 1 in 10 with distilled water. The blood should be saturated with CO before it is diluted with distilled water, in order to minimize the volume of CO gas dissolved in the resulting solution. If the saturation is made after dilution with water, the volume of dissolved gas would be so increased that it would seriously affect the calculated relation when the resulting HbCO solution is mixed with the solution of oxyhemoglobin, HbO_2.

From solutions of approximately all HbO_2 and HbCO respectively, mixtures are made which total 1 c.c., but vary from 0 to 100 per cent HbCO in steps of 10. These solutions are contained in a test tube, approximately five sixteenths of an inch inside diameter, of clear, thin glass. To each standard thus prepared is added 1 c.c. of a mixture consisting of equal parts of a strictly fresh solution of 2-per-cent pyrogallic acid, after which the tube is inverted twice to insure thorough mixing. The tube should be sealed immediately by pouring a little melted paraffin on top of the contents while the tube is immersed in cold water as a caution against overheating. This temporary seal will exclude the air until the walls of the tubes become dry, when a tight, permanent seal can be made by placing a disk of cardboard on top of the paraffin and filling the remainder of the tube with ordinary sealing wax. Care should be taken to exclude all air. Standards thus prepared develop their full color in thirty minutes, and if properly sealed and kept in a cool place will retain their permanence for one to two weeks, not changing enough to interfere with accuracy of determination.

Although very reliable for a limited time, the standards prepared from blood are not accurate over long periods. The necessity of having to prepare standards frequently in order to have a set ready for emergencies is undesirable; accordingly permanent standards matching the corresponding blood colors were prepared from pigments (artists' oil colors). Standards thus prepared are ready for use at all times.

A complete set of apparatus and chemicals for determining CO in blood is listed below:

a. Set of color standards, prepared either from blood or pigments, to represent the color of blood having varying known amounts of HbCO (as 0, 10, 20, 30, etc.). The standards are contained in small clear test tubes, five sixteenths inch in diameter, and having a volume of 2 c.c., which may be arranged in a suitable rack with spaces between for interposing tubes of similar size that contain the blood samples for analysis.

b. Small test tubes (of the same size and glass as those used for the standards) in which to prepare specimens for analysis.

c. Dilution pipette. The dilution may be made by using a 0.1-c.c. pipette for measuring the blood into the required volume of water or by having a dilution pipette (as shown), with a capillary stem that holds 0.1 c.c. and a bulb above that has a total volume of 2 0 c c., thus making a dilution of 1 in 20, which seems to be the most suitable blood concentration.

d. Spring hemospast or blood lancet for making a small wound in the finger or other convenient place from which the blood may be obtained.

e. Small watch glass or spot plate for catching the blood as it flows from the wound. This is not essential, as the blood may be drawn up directly from the bead over the wound. However, the spot plate is convenient where two or more specimens are desired from the same wound, as for air analysis.

f. Piece of one-fourth-inch rubber hose 10 inches long, or a similar band of rubber for wrapping the finger, beginning at the base and proceeding toward the tip in order to force the blood out if it does not flow freely when the sample is being taken.

g. Mixture of equal parts by weight of tannic and pyrogallic acids either solid or in solution. If in solid form it may be prepared in capsules or tablets, or, if it is in powder form, it may be kept in a bottle as in the equipment used by the Bureau of Mines, with a measuring spoon holding approximately 0.04 gram, which is the amount found to be the most suitable for 2 c.c. of a 1-in-20 blood solution. If less blood solution is used, the amount of the acids must be decreased correspondingly.

If a solution of tannic and pyrogallic acids is used, it may be made in concentrated form, so that 2 or 3 drops will be equivalent to 0.04 gram of the acid.

Another procedure found to work equally well is to

make the solution of such strength that 1 c.c. contains 0.04 gram of the mixed acids, in which case the blood specimen is initially diluted 1 in 10. Although solutions work more rapidly, they deteriorate quickly and must be made fresh each day.

h. Bottle of water (preferably, but not necessarily distilled if clean tap water is available) for making the blood dilutions.

All of this apparatus can be arranged in a compact pocket case, 8⅞ by 4 by 2¼ inches, and can be kept in readiness for immediate use.

The following procedure is based on the apparatus described, but it may be modified to suit blood apparatus and facilities at hand, as suggested before. A small puncture wound (approximately 2mm. deep) is made with the hemospast in the tip of the finger of the victim, or suspected victim, of CO poisoning, and several drops of blood are caught on the spot plate or drawn directly into the pipette. If the blood does not flow freely, the finger is wrapped with the rubber hose, beginning at the base and progressing toward the tip. Massaging the finger also aids the flow. (If death has intervened, it may be difficult to obtain liquid blood, but this usually can be done during embalming.) When the blood has been procured, it is quickly drawn into the stem of the pipette to the 0.1-c.c. mark. The pipette is then held horizontally, and any blood on the exterior of the tip is removed. The tip is raised slightly to allow a little of the blood to flow into the diluting bulb, and, by inserting it quickly into the bottle of water and using suction at the same time, it can be filled to the 2-c.c. mark to give proper dilution. The blood solution is then discharged into one of the test tubes, a little of the solution being drawn back once or twice into the pipette to wash out any adhering concentrated blood. To eliminate possible clotting, the entire procedure of obtaining the blood specimen should be as rapid as possible. If it is desired to take more than one sample, the pipette can be rinsed out with a little dilution water, care being taken to blow the capillary stem free from water and to dry the tip of the pipette before the next sample is obtained.

Immediately after the blood solution has been discharged into the test tube, approximately 0.04 gram of the tannic-pyrogallic-acid mixture is added by the spoon, capsule, or solution method, and the tube is inverted several times to insure thorough mixing with the reagents. The tube is then placed in the rack and allowed to stand 15 minutes at room temperature (if particles of the solid acids settle out, the tube should be inverted several more times), at the end of which period it is compared with the standards by interposing it between them until the standard is found which most nearly matches it. If CO is indicated, the tube should be allowed to stand 15 minutes longer and another reading made. The latter reading should be taken as the more accurate. The percentage of HbCO, or what is designated as "blood saturation," is estimated from the value of that standard.

The observations are best made in daylight, but not in direct sunlight. The observer should stand with his back to the light, viewing the tubes by reflection, and should change their positions several times to note any difference due merely to unequal lighting effect. Observations may be made after several hours without serious loss of accuracy, although this is advisable only in case of necessity.

PREVENTIVE MEASURES

The chief factors in preventing CO poisoning are as follows: (1) Good ventilation, as this will dilute and carry away the gas; (2) avoidance as much as possible of any exposure to air known to contain CO; (3) use of adequate protective equipment when atmospheres known to contain CO are to be encountered; (4) keeping calm when it is necessary to enter or be exposed unprotected to atmosphere containing the gas, not hurrying but getting to fresh air as quickly and with as little exertion as possible.

EMERGENCY TREATMENT

In the treatment of CO poisoning the most important thing is to get that gas out of the blood as rapidly as possible, thus relieving the anoxemia (oxygen-want of the tissues) and decreasing the possibility of serious after effects or even loss of life through failure of the heart and respiration.

As soon as a victim begins to breathe pure air, the tension of the CO in the pulmonary air is less than the tension of the CO in the blood, and a great deal of the CO which is liberated by the dissociation of the HbCO into CO and Hb diffuses from the blood into the lungs and is exhaled, thus beginning a reversal of the process of poisoning; the blood will then gradually resume its normal oxygen-carrying function. However, this normal elimination is too slow, requiring hours to reduce the HbCO to 10 per cent of the total Hb, and often results in serious effects.

The two main factors accelerating this reaction are: (1) To increase the amount of oxygen in the pulmonary air and plasma, since the reaction is one of mass action; and (2) to increase the lung ventilation, which will remove faster the CO given up by the blood to the lungs. Inhalations of pure oxygen will remove the CO

practically four times as fast as will normal air,[9] while a mixture of 5 per cent of CO_2 in O_2 will cause increased lung ventilation[10] and remove the CO five to six times as fast as normal air. The advantage in the use of O_2 alone is that it is more available, owing to its use in the industries for other purposes. Both of these inhalation treatments are given preferably with an inhaler.

The steps in effective treatment of acute CO poisoning are:

1. The victim should be removed to fresh air as soon as possible.

2. If breathing has stopped, is weak and intermittent, or present in but occasional gasps, artificial respiration by the Schaefer method[11] should be given persistently until normal breathing is resumed, or until after the heart has stopped.

3. Pure oxygen, or a mixture of 5 per cent of CO_2 in O_2, should be administered, beginning as soon as possible and continuing for at least 20 minutes in mild cases and as long as 1 to 3 hours if necessary in severe cases if the patient does not regain consciousness.

4. Circulation should be aided by rubbing the limbs of the patient and keeping the body warm with blankets, hot-water bottles, hot bricks, or other devices, care being taken that hot objects are wrapped or do not come in contact with the body and produce burns. This aids in tiding the body over a period of low vitality. Other stimulants such as hypodermics of caffein, sodium benzoate, or camphor in oil, should be administered only by a doctor after he has considered the possibility of collapse following excessive stimulation.

5. The patient should be kept at rest, lying down in order to avoid any strain on the heart. Later he should be treated as a convalescent and given plenty of time to rest and recuperate.

6. After effects of CO poisoning should be treated symptomatically.

In conclusion, it should be emphasized that inhalations, for a period of 20 to 30 minutes, of oxygen or a 5-per-cent mixture of CO_2 in O_2, if available, will, when given immediately, greatly lessen the number and severity of symptoms of CO poisoning, as well as decrease the possibility of serious after effects. All industries in which this type of poisoning is common should provide apparatus (inhalers) for the efficient administration of these treatments. This apparatus should be placed at points most convenient for treating CO poisoning, and employees should be trained in its use, so that resuscitation may be effected as soon as symptoms of poisoning are noted.

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SYMPOSIUM ON MEDICAL WORK WITH PRESCHOOL CHILDREN

REPORT OF A FOUR-YEARS' HEALTH PROGRAM WITH PRESCHOOL-AGE CHILDREN OF ITALIAN PARENTAGE IN PHILADELPHIA*

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Malnutrition is a disease which has always been a problem facing the medical profession. Numerous methods for solving this problem have been suggested and tried, but one fact stands out definitely: that if malnutrition is to be *prevented*, efforts to prevent it must be instituted *early* in the child's career.

In 1921, Starr Center, a health center in a congested district in South Philadelphia, undertook to study methods for the prevention of malnutrition among the preschool-age children of very poor parents, mostly of Italian birth. Since these people knew so little about the causes of malnutrition, it became evident that the first step in prevention was to teach them these causes and the methods of preventing them. Teaching health principles to these younger children and their mothers proved to be a more difficult task than teaching them to the older children. Two general methods were open for trial: first, the baby health center method, that of teaching the mother at individual conferences with the doctors; and second, that of supplementing the previous method by appealing to the children and their mothers in *groups*.

The second method seemed to have advantages. Although it is time consuming, it takes less time to teach ten children in a group than to teach the same thing to these people individually. The group method stimulates, in both parents and children, the spirit of competition

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which is wholly lacking in the individual-contact method. Furthermore, if a child is a member of a group, he soon learns that all of his unwholesome efforts to attract undue attention, such as sulking or crying, avail him nothing. He notices that the other children receive more praise than he does, and decides he must do as they do in order to get the attention he naturally craves. So he climbs down from his mother's lap and sits in a group with the other children. He soon starts to eat and drink as they do, and is delighted when he receives the same weekly reward that they receive. In this way, there gradually develops in him a sense of responsibility for his own health.

A method such as this has been tried out for over four years at Starr Center. A preliminary report of the work was made before this Society in 1922, but at the end of four and a half years of the experiment, we are in a position to know its weak and strong points. A critical survey has resulted in conclusions which, may be of service to others undertaking to perfect health conditions among preschool-age children in poverty-stricken, congested districts.

CLASS PROCEDURE

Groups of children between two and five are selected on the basis of worthiness and need, rather than on the basis of physical signs of malnutrition. About ten children and mothers are enrolled in a class which meets once a week for three months. The children then "graduate," but are kept under observation until they have attended school for about one year.

Before admission to the class, each child is carefully examined. All essential points in his history are recorded, especial care being taken to elicit accurate information from the parents relative to the food the child eats, his sleeping and resting hours, his play time and forms of exercise, the family's use of fresh air and sunshine, and any infections the child has had.

The effect of these various conditions on the child's physical and mental health is explained to the mother, whose honest coöperation is solicited. The mother is told that her child's habits are dependent upon two main factors: his environment and his native tendencies, such as imitation, curiosity, love of power and attention. If his environment is normal, his native tendencies will in all probability develop normally. She is told that the aim of the class is to correct disease existing in the child, to prevent disease in the child, and to interest him in health. *Her* responsibility is to give him a chance to practice in his home the health habits he learns at class.

After this preliminary conference, the child is enrolled in the class and is supposed to attend regularly with his mother once a week for three months.

The class routine is outlined on the following chart:

CHART I

HEALTH-CLASS PROCEDURES

Before Admission to Class

History: diet, rest, hygiene, diseases, etc.
Physical examination.
Estimation of weight, height, and average weight.
Conference with doctor.

After Admission to Class

Weekly weighing of children.
Cooking demonstration for mothers.
Examination of children by doctor.
"Health-Star Game."
Poster talk—health habits.
"Party."
Conference: mother and doctor.

While the mothers are attending the cooking demonstration, an effort is made to interest the children in exercises or games. Then the children sit in a group, and the "health-star game" is played. In this game, each child who has gained in weight during the week is allowed to paste a gold star on his chart, and each child who has rested and slept normally pastes a blue star on his chart. He puts a silver star on his milk bottle if he has had his three glasses of milk daily, and a red star on his chart if he has submitted gracefully to vaccination, diphtheria immunization, dental hygiene, or correction of any existing physical defect.

The "Poster Health Talks" are listed on

CHART II

POSTER HEALTH TALKS

Correction of Physical Defects
Rest (day and night)
Foods: Food habits
- Milk
- Milk soups, etc.
- Milk desserts
- Cooked cereals
- Green vegetables
- Fruits
- Other foods

Play and exercise
Fresh air and sunlight
Oral hygiene
Cleanliness: external—internal

The "party" is true to its name. The children dress up for it by washing faces and hands. They sit down around a little table, and some very nice food, like spinach or oatmeal, is served to them in simple attractive form. Cheerfulness is encouraged. Although the children are apparently left alone to enjoy their "party," there is always a watchful eye kept on them to make sure that all the food is eaten, but not too fast. Many

other practical points in physical and mental hygiene are impressed upon the mothers at this time.

CHART III

FOODS SERVED AT "PARTY"

"Milk punch"
Cocoa
Junket
Milk soup (potato)
Milk soup (spinach)
Creamed carrots
Spinach
Lettuce
Oatmeal
Ralston's
Wheatena
Apple sauce and whole-wheat bread
Prunes and whole-wheat bread
Egg with toast
Spaghetti (prepared properly for digestion)

After the "party," each mother is given an opportunity to confer with the doctor or nurse concerning the particular difficulties she has with her child. Many questions come up which mothers do not care to discuss in the presence of other parents. One mother's child swears, another suffers from enuresis, another refuses to drink milk except from the bottle or vomits when he is told to eat foods he does not like. The class procedure ends with these conferences.

The staff working with the class includes one doctor, one nurse, and one cooking demonstrator. The same doctor and cooking demonstrator have been in regular attendance during the four and a half years, but there have been nine different nurses on the staff during this period. One nurse was in attendance two consecutive years, and there is no doubt that the coöperation of the parents was better and more was accomplished in constructive health work during this time than at any other.

During the weekly intervals between classes, the nurse makes at least one call at the home, but in most cases this visit is very short, and serves simply as a reminder to the mother to be present at the next class with her child. One nurse made special visits at meal time or at the rest hour, in order to determine whether suggestions made in class were actually carried out at home. But as a rule, the nurse, who has many other duties than those connected with the health classes, does not have the time to visit more than once a week. Neither does she usually have the special training, nor the personal influence in the household to demonstrate to, and to convince the family that all that was done in the class can be done at home.

From the time the children graduate from the class till they are admitted to school, they are visited by the nurse at intervals which have proved to be too long. They are always seen twice a year when the nurse routinely visits to guide them back to class for biannual weighing and examining. In many cases, these two visits are the only yearly follow-up visits in the home for the express purpose of checking up on health habits learned in class.

STATISTICAL REPORT

With this sketch of the class procedure in mind, the following results will be better appreciated:

It is always difficult in educational work to state facts which prove results. The workers may "feel and think" that their work has succeeded, and they may give long accounts of the amount of work done, yet there seldom is a report which shows the specific and *permanent* effect of such educational work on the individuals concerned. This criticism, which is so often made of health education, may as reasonably be made of other types of educational work. For instance, children are taught English at school. The teacher submits a report of the averages which her pupils make. This report gives evidence of what the children actually learn in the class period, but it cannot state that these children will put into practice all that they have learned, especially if they live in an environment which abuses good English.

The same is true of health education. A report may show that children have learned health habits, but it cannot prophesy that these will always be practiced in a home which is health abusive. Observation through succeeding years must be made to determine this.

Our results are submitted with the hope of demonstrating that the health classes did improve the actual and potential physical and mental health of the children, both during the class period and for several successive years. The data are arranged in accordance with the following outline:

Actual Evidences of Improved Health

1. Gain in weight compared with the expected gain.
2. Correction of physical defects.
3. Improvement in general appearance (color, activity, muscle tone, posture).
4. Fewer behavior disorders.

Evidences of Potential Health

1. Improvement in rest and sleep.
2. Improvement in diet and in food habits.
3. Better use of fresh air and sunshine.
4. Disease-prevention measures accomplished—vaccination, diphtheria immunization, oral hygiene.

Seventy-four children attended the health classes regularly enough to contribute accurate information for this report. All except six attended more than five times. The average number of visits to the class was ten per child.

EVIDENCE OF IMPROVED HEALTH

GAIN IN WEIGHT

Actual Gain		*Expected Gain*	
Total gain 1921-1925	583.0 lbs.	Total expected gain	616.0 lbs.
Average gain per child	7.9 lbs.	Average expected gain	8.3 lbs.
Total gain during class periods of 3 months	126.5 lbs.	Total expected gain during class periods...	77.7 lbs.
Average gain per child for 3 months	1.75 lbs.	Average gain per child	1.0 lbs.
Total gain after class till school age	458.0 lbs.	Total expected gain after class	540.0 lbs.
Average gain per child till school age	7.5 lbs.	Average gain per child	8.8 lbs.

These figures indicate that during the child's attendance at class, there is an exceptionally fine gain in weight—an average of three-quarters of a pound above the expected gain per child. From the time he graduates from class till he enters school at six or later, the average gain in weight per child is 1¼ pounds *less* than the expected gain. These last figures give one a poor impression of the end results so far as weight is concerned; but on analysis, it is discovered that the child gained within ten ounces of what he is expected to gain every year. In consideration of the fact that all of the children live in the slums, and that most of them live in *abject* poverty, these results actually seem encouraging.

Correction of Physical Defects.—Of the children suffering from diseased tonsils and adenoids, 64% had theirs removed. Eighty-two per cent of all the children visited the dentist for treatment or prophylactic care. One hundred per cent of the children who had eye defects, saw oculists.

Improvement in General Appearance.—Careful records were kept of the changes in general appearance of the children as determined by their color, muscle tone, facial expression, and activity. During the class period, 80% of the children showed improvement in these respects, and 74% at the end of the observation period. The posture of 50% of the children was nearer normal at the end than on admission to class.

Improvement in Behavior Disorders.—One of the aims of the class was to teach the mothers the principles of mental hygiene, so that they might better understand and interpret the child's reactions to his environment and therefore be better able to guide and direct him. Data on behavior disorders, such as stubbornness, bashfulness, apprehension, fear, lack of concentration, and undue love of attention, were kept, with the thought that these might indicate to what extent mental hygiene was practiced in the home. During the class periods, 48% of the children improved markedly in behavior, and only five children showed no improvement. At the end of the entire period of observation, 70% behaved well and were reacting quite normally to their environment.

EVIDENCES OF POTENTIAL HEALTH

Much that was taught concerning health habits and disease prevention probably resulted in little actual change in the child's condition during the class period, yet if these lessons could be learned and practiced by the child, better health would be guaranteed for him in the future. The following results indicate that the children did learn and practice much that was taught them.

Improvement in Rest.—Ninety-two per cent of the children learned to rest and sleep well during the class, and 76% were still practicing good rest habits at the end of the observation period.

Improvement in Diet and Dietary habits was not so striking. This is not surprising, when one recalls, first, that poverty is extreme among these families; and, second, that the parents, particularly the fathers, have established poor dietary habits which they often refuse to change, and which naturally the children imitate. Sixty-four per cent learned to like good foods and practiced better food habits at the end of the class, but only 41% continued to show improvement after class.

Fresh Air and Sunshine.—An effort was made to teach the children the value of sunshine and fresh air; but since neither proper sunshine nor fresh air were available, this part of the instruction was not of practical value to the actual health of the children, and of little value to potential health. Neither did they profit by instruction given them concerning exercise and play, with this exception: the mothers did grasp the idea that play is an essential factor in the normal child's mental and physical growth, and therefore he should be allowed to play instead of being forced to sit and mind the baby. As a whole, one of the greatest difficulties of health work in big cities is the lack of fresh air and sunshine in which preschool children may play and exercise.

Disease Prevention.—The final evidence of the

value of the work in insuring health for these children is in specific disease-prevention measures. Accurate data were tabulated of the number vaccinated, the number immunized to diphtheria, and the number who practiced principles of oral hygiene, such as proper brushing of teeth, chewing of hard foods, and eating of foods which build strong teeth.

Ninety-seven per cent of the children were vaccinated; 90% were immunized against diphtheria. During the class, 81% of the children were properly caring for their teeth, and the remaining 19% were giving their teeth better care than on admission. The final records show that 40% were still enthusiastically caring for their teeth at the end of the four years; another 40% were giving them sufficient care to be of value; the other 20% had ceased practicing any habits of oral hygiene.

One other method of health investigation attempted with this group was that of stool examination. The mothers were urged to bring specimens at the beginning and at the end of the class. Less than 25% of the mothers brought specimens, and a second specimen of the same child was examined only twice. Without one exception, the specimens showed very incomplete digestion, especially of starches.

CONCLUSIONS AND SUGGESTIONS

On the basis of this report the following conclusions and suggestions are made:

I. Results indicate that the method described is of definite value in promoting health and preventing disease among preschool-age children. More conclusive evidence of its value could be secured by

a. Collecting accurate data, such as has been reported, on a second group of children of the same age and living under similar conditions, but who have not received the same intensive care and instruction that this group has. No such data were available for comparison with this group.

b. Noting improvement in hemoglobin and increase in red blood cells.

c. Noting improvement in digestion as determined by stool examination.

II. The chief criticism of this investigation is that too much responsibility for the success of the work has rested upon the weekly class. Mothers repeatedly say, "Rocco does the right things in class, but he won't at home." Other clinics, such as "child-guidance clinics" and "mental-hygiene clinics," find it necessary to send workers to the *home* frequently enough and long enough to show the family that what is taught and done in class can also be put into practice in the home. "Health classes" must do the same thing. The *class* is necessary because it interests the child in health habits, stimulates healthy competition, and offers opportunity for demonstrating innumerable lessons in cooking, child training, etc. Intensive *home* visiting and instruction are necessary in order to show and to convince the mother that she can practice in the home the principles she has seen worked out in class.

III. The worker who does the follow-up work in the homes should not only have a nurse's training, but she should be trained in child psychology, in mental hygiene as well as physical hygiene, in food values and in the preparation of food. Furthermore, she should have few duties other than those connected with the health class and home visits.

IV. The success of the work would be greater if the coöperation of the father were as sincere as that of the mother, since he often is the most influential member of the household.

V. Intensive health education is practically useless with a certain number of cases whose mothers are emotionally unfit to profit by and carry out the instruction given. It is a waste of time and effort to teach such people, and they should be excluded from the class. The responsibility of making such an exclusion should rest with a psychiatrist, who can usually make his decision fairly accurately after a brief interview with the mother. Such interviews, held before the class is started, are to be recommended.

VI. Finally, if this or any health program is to be successful, cities must make it possible for children of preschool age to have sanitary living quarters, and adequate, safe, sunny play space.

HEALTH WORK WITH PRESCHOOL-AGE CHILDREN IN RURAL COMMUNITIES*†

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It has been the policy in the past for child-health work in rural sections to be centrally located in the larger towns or villages of a given area. Such towns, as a rule, have in them a fair number of retired folk, and industrial conditions are more or less dependent upon small enterprises and the vagaries of the market, all of which has its influence indirectly on the preschool census of a community. On the other hand, outside of such towns in the farming,

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†From the Bureau of Child Health, State Department of Health.

dairy, oil, timber, and coal sections, with the exception of the latter, families seldom change their residence. Winter conditions prohibit the visiting from rural sections to a near-by town in which a baby center may be located, while the spring and summer demand the labor of all available hands in the family from early morning until late evening, leaving little free time for parents to avail themselves of a health center's facilities.

Dr. Charles H. Miner, Secretary of Health, having this in mind, conceived the idea of organizing a child-health unit to bring health facilities to the babies and little ones in the more remote sections of the State. Though preventive medicine is not new scientifically, it is extremely new in practice and practical application, particularly in those communities removed from medical centers. The same is true of early surgical correction of physical defects in infants and young children.

Five counties (Bedford, Somerset, Tioga, Potter, and Wyoming), were selected in which to try the experiment of actually carrying out the slogan of bringing "Health to the Cross Roads." A motor ambulance was equipped as an examining office, and provided with an examining table, drawers, and cabinets. To these were added scales, measuring boards, togas, charts, two dental chairs and full equipment for dental-hygiene work. The personnel, according to the population of the county, consisted of from three to five physicians trained in both the theory and practice of preventive pediatrics, two or three Department nurses, two dental hygienists, and an assistant, who drove the health car.

Previous to the unit's departure from Harrisburg, the Department's field organizers visited the counties and, with the medical directors of the five counties, consulted with the profession concerning the need for such service as the health unit proposed to give. The profession was most emphatic in voicing the need of such service. With their coöperation, local committees were formed in the small towns to estimate the number of babies and preschool children in their districts and the possible proportion that would be brought to the health car for examination. With this knowledge at hand, dates were scheduled for the various towns scattered throughout the county, and the local health committee arranged for publicity in advance, so that all in the county knew of the coming of the health car.

From the number of children that were quickly "signed up" for examination, we knew all of them could not be accommodated in the health car, so the local committees arranged for the use of school and community buildings and churches, where there would be plenty of room for a large personnel to work without crowding, and still permit parents and their children to be comfortable while waiting their turn. In each instance, arrangements were made to permit consultation in private with the doctors. The same relationship existed between physician, parent, and child as in office practice. This privacy permitted a thorough examination of every child, and excluded any feeling of sensitiveness on the part of parents when undressing children. Arrangements were made for four children per doctor to report each hour. This prevented overcrowding and permitted an orderly routine.

After examination had been completed, physical defects, most of which were obvious, were pointed out to the mothers. As one might expect, in many cases their existence had not previously been noticed, or if so, no significance had been attached to their presence. The consulting physician would explain the nature of each defect and the reason for it and show, if possible, how it could be corrected. Needless to say, parents appreciated the detail into which the doctors went regarding their children. They received satisfactory explanations to their questions in all instances. Emphasis was laid on the correction of defects which were handicapping the child, or which menaced its future if not actually giving trouble at the moment.

It soon became apparent that a wide need exists, not only in health work but in private practice, to disabuse parents of the old-fashioned idea that a baby or young child is too young for any preventive work save circumcision. The next point—but one which is beginning to lose ground—is the fallacious belief that toxin-antitoxin or vaccination correctly performed will in any way act deleteriously on the blood of any baby. Again, the three- or four-year-old child who is subject to recurrent attacks of tonsillitis and middle-ear disease can have its tonsils and adenoids removed when indications are sufficient. Babies can be successfully vaccinated against smallpox and immunized against diphtheria any time after the sixth month. On the dental side, too much cannot be said concerning continuous care of the "milk teeth" and prompt attention to the beginning of cavity formation or other decay.

That there is a need and a demand for such a traveling health unit as the Department had in the field during the past summer is agreed by all interested in child health, and its place in rural life is attested by the enthusiastic reception given to the unit in all sections visited and by the appreciation of parents who did not hesitate to express their desire that the unit return next

summer. The attendance surpassed expectations. In many places, babies were turned away, as the schedule did not permit the unit to remain longer. There was enough work fully to have occupied the personnel twice as long.

After all, the best recommendation that the Department can have is from the chief source of its inspiration—the physicans of the State. This was forthcoming in abundance. Wherever the unit stopped, the local physicians called and showed great interest in the methods of examination and dental hygiene. As is the policy of the Department, the unit gave no treatment. Where treatment or corrections were necessary, the little ones were referred to their family physician with a card noting the defects found. The staff was mindful of the fact that the family physicians best knew the little ones examined. They had seen them when ill, and therefore were in a position to pass final judgment as to whether or not the removal of defects would benefit a child, free it from handicaps, or recurring illnesses, and improve its general health. Nothing could be more fair. Full and hearty coöperation was given by the doctors of the counties visited.

The history of this initial experiment would not be complete without expressing thanks and appreciation to the physicians, local committee members, editors, clergymen, school teachers, and all those who took part in the work of organizing the many districts, arranging the transportation and bringing the large numbers of children to the health car.

CHILDREN EXAMINED IN FOUR COUNTIES

Counties	*Under 1 Yr.*	*1-2 Yrs.*	*2-6 Yrs.*	*Over 6 Yrs.*	*Total*
Bedford	138	165	636	236	1,175
Somerset	290	254	1,201	390	2,135
Tioga	81	81	299	99	560
Potter	63	67	304	56	490
	572	567	2,440	781	4,360

There were 4,360 children examined completely, of whom 781 were of school age. Advice was given to approximately 3,000 mothers. Preliminary figures indicate that over 10% of children were found in "excellent" condition; 60% in "good" condition; 27% in "fair" condition; and about 2% in "poor" condition. In one county (Bedford), 10% of the children examined had enlarged thyroids, and the figure may hold good for the other four counties. Over 2,300 children had their teeth cleaned. Cavities in teeth averaged 7.5 per mouth. In Bedford County 33 1/3% had enlarged or diseased tonsils, and 25% had enlarged cervical glands. The figures for the other four counties are not yet available. Heart and lung disease was uncommon. Long hours uninterrupted by naps was the most common bad health habit.

For the past five years, the State Department of Health has carried forward an intensive campaign looking to the more complete control of diphtheria, advocating the larger doses of antitoxin as a curative agent, permanent immunization by toxin-antitoxin, strict observance of quarantine, and negative cultures before release. At first the work was most discouraging. But a small proportion of the profession in rural communities were familiar with the Schick test and toxin-antitoxin procedure. The public was skeptical, and it was most difficult to secure an understanding of the difference between toxin-antitoxin and antitoxin. By repeated demonstrations before medical societies and municipal audiences and institutions, the gospel of immunization began to spread, until today the procedure is accepted by the public and is a part of every physician's private practice.

Shortly after the use of the Schick test and toxin-antitoxin was begun, the discovery was made that a decided variability existed between the number of susceptibles and the percentage of nonimmunes following the first series of T-A injections. The rural results varied from those reported among children in first- and second-class cities. Since then, the proportion of susceptibles and successful immunizations has not been greatly changed. Roughly, in rural communities, 80 to 85% of children (preschool and school) are susceptible to diphtheria, and 10% usually fail to develop sufficient protection against diphtheria following the first series of T-A injections. Checks by the Health Department laboratory have proved the material used to be as guaranteed by the manufacturer. In the meantime, other workers in rural districts have reported parallel results. Many rumored severe reactions have been investigated, as well as a few deaths said to have been caused by toxin-antitoxin. In no instance, has it been certainly proved that the toxin-antitoxin had any deleterious action. When the investigation was completed, it usually showed that the patient's ailment was attributable directly or indirectly to some other definite cause—chiefly tetanus where there had been an injury and subsequent use of tetanus antitoxin.

Last year, the Department was prepared to administer toxin-antitoxin to every child who could secure parental consent. The greatest responses were secured in Cambria, Westmoreland, Indiana, Wyoming, and Fulton Counties. In all, the showing was remarkable, which may be taken as an indication of the advance in preventive pediatrics. To date, over 135,000 chil-

dren of preschool and school age have been given the three injections of toxin-antitoxin, exclusive of the first- and second-class cities, where this work has been done directly by the city health departments. The results of the five-year campaign have been most gratifying and fully justify the prediction that diphtheria can be brought under full control. A definite and continuous lowering of morbidity began after the first year of intensive campaigning.

The present policy of the Department is to distribute toxin-antitoxin and Schick material free for all children of the State, regardless of age, except in the cities of Philadelphia and Pittsburgh. The good results have been brought about in a great measure by the endorsement of this Section of the State Medical Society and the active work of this Society's Committee on Public Relations, whose chairman, former Commissioner of Health Martin, began the campaign and assigned it as a definite program to be followed.

So far, the Department has not attempted to introduce the Dick test and scarlet-fever immunization. Likewise, no practical clinical research work in scarlet fever has been undertaken. Experience has shown that as the work in diphtheria has progressed it has carried with it the interest of the public in scarlet fever prevention.

In the realm of baby and preschool health, definite progress has been made. There is a steady downward trend in infant mortality and infant morbidity rates. At the present time, there are approximately 180 child-health centers under the Department's control, whose personnel consists of a physician and State nurses, carrying out the work according to a standardized technic. There are also 226 other baby centers scattered throughout Pennsylvania which are conducted by local health departments and nursing and social agencies. Through these centers, there has been a total attendance in the past year of 274,343 visitations, of which 58,640 were new babies registered in the centers. An additional feature is the holding of about 400 centers in isolated districts once or twice a year, of which about a half are Department centers. Practically every town of any size in the State has a baby-health center.

In the State centers, thorough physical examinations of all new registrants is insisted upon with repeated examinations at frequent intervals, according to age. Results are evidenced by the number of corrections secured, corrections which ordinarily would frequently be postponed until a crippling effect became pronounced. Practicing physicians state that there is a steady increase, small in some places but more or less universal, in the interest of parents in assuring the health and well-being of their babies and young children. It is the Department's policy to exclude sick babies and all forms of treatment from its centers. Such work rightfully belongs in the realm of private practice, and it is the Department's purpose to see that it reaches private practice and remains there. This is accomplished by the follow-up visitations of the nurse. More and more stress is laid on the advisability of vaccination against smallpox and immunization against diphtheria at six months of age.

In checking up results of baby centers, one is confronted by the absence of any standard that might be applied which would give a true picture of all the benefits derived from such service. It is something that cannot be expressed in the same manner as the results of the Department's efforts to stamp out typhoid fever and smallpox. When one glances over the lowered infant mortality in Pennsylvania, with its attendant varied social, industrial, and racial features which exist in no other State in the same proportion, and sees the increasingly active interest on the part of parents in striving to keep their children well and to make necessary corrections of physical defects, the growing recognition that such so-called benign afflictions as whooping cough and measles are being taken seriously, and the absence of many sickly babies formerly seen in a house to house canvass, one cannot help but argue that the efforts in baby-health work have not been in vain. This improvement is not due solely to the baby center's efforts, but rather is a part of the general community health program which includes improved sanitation, sewage disposal, and water supplies, the activities of local health departments, health boards, and health officers, safe milk, and the increase of preventive medicine in private practice.

GASTRO-INTESTINAL STUDIES AS AN AID IN THE TREATMENT OF UNDERNOURISHED CHILDREN OF THE PRESCHOOL AGE*

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This subject presents a larger problem and involves more than could be accomplished in the brief time given to the preparation of this paper. It is merely a preliminary step in the study of the gastric and intestinal functions of children,

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made with the hope that a practical scientific basis might be found and that something concrete might be added to the armamentarium of the pediatrician in the treatment of malnutrition in the child of preschool age.

Many conditions have been recognized as contributing factors in malnutrition, as for example, poverty, improper food and improperly prepared food, bad hygiene, insufficient sleep, and foci of infection. Many of these have been eliminated or improved, yet the results have been very disappointing.

Exhaustive studies have been made of this same condition in the adult, and the results of scientific investigation, particularly of the gastro-intestinal tract, have been in numerous instances very illuminating, revealing some definite etiological factor or factors. The result was the institution of rational measures that very often were productive of marked improvement or even cure in individuals who apparently had become semichronic invalids.

These patients, as we all know, do not always have definite subjective symptoms. On the contrary, they are often absent, or vague if present, and usually are referable to the gastro-intestinal tract. The fact that the child does not present subjective symptoms does not rule out their nonexistence. That they might exist in the child apparently seems not to have been appreciated by pediatricians generally. From time to time one finds in the literature studies of the gastric and intestinal function in the ailing child or in the child under par, but such investigation up to the present time is not a part of a routine examination in a child presenting the condition of malnutrition. These studies were made with that thought in mind.

The subjects examined were children who were under the supervision of a well-organized health clinic. Thorough physical examinations were made, foci of infection were removed in some cases, diet and treatment were followed carefully and intelligently, yet with little or no improvement in the nutrition of the child.

The ages varied from 2½ to 5 years. Gastric analyses and examinations of the feces were made only; no x-ray work was done.

The family history in each case was investigated and was practically negative. The parents were well and all other children in the family of good health and nutrition.

With one exception, none of the children had been ill with any infectious disease. One child two years previously had acute otitis media, but had recovered completely. All had been of normal delivery. All, with one exception, had been bottle-fed, and this one had been breast-fed for three months. Not one child had ever seemed well; all were described as being "always weak."

No definite symptoms could be elicited. The appetites were variable, the children pale, with undeveloped musculature. The condition of the tonsils varied. Some were hypertrophied and markedly diseased; three had had tonsillectomies. The heart and lungs were negative, except that in most cases the muscle tone of the heart was poor.

Careful study of the literature failed to reveal any generally accepted standard of normal gastric secretion or acidity in children. The figures of the various authors varied. Since the work described herein was done exclusively on the undernourished child, the figures presented are the simple facts as found. No comparisons were made, and no conclusions drawn.

The child was prepared in the same manner as is usual for the adult in our gastro-intestinal clinic. Twelve hours previous to reporting at the clinic, the child was given a slice of bread and butter and three prunes (stewed). He was directed to eat or drink nothing after that time, and was not to be given breakfast. This seems not to have been objectionable, as the children usually did not care for breakfast.

The duodenal tube was used, and no difficulty was experienced in intubation. The tube was removed immediately following the withdrawal of the fasting residuum. The test breakfast consisted of 50 grams of bread and 180 c.c. of water (there was also no protest when this was given) and following the ingestion of this meal the child was permitted to play as he chose. In one hour the entire stomach contents were removed. No attempt was made to use the fractional method.

Examination of the fasting specimens showed variations both in physical properties and in chemical analyses. There was no gross food or fresh blood in any of the specimens. Occult blood was also negative. The specimens with the higher acidity were larger in amount and watery in character, with small floccules of mucus in all the samples. The specimens in which the acid readings were low were mucoid in character. Two were egg-white in consistency. Microscopically, the latter showed a low-grade gastric inflammation—pus cells, degenerated gastric epithelium, mucus, bacteria, and buccal epithelium.

Examination of the test meals varied, as did the fasting contents. In some, the acid tended toward a higher curve, the bread being finely

divided, and the gastric secretion more abundant and watery in character. In those in which the readings were low, the bread was either unchanged or less comminuted, and suspended in a somewhat mucoid secretion. There was no free or occult blood or bile in any of the fractions. If these readings are compared to the recognized standards of the adult, then we find there are deviations from the normal.

The stool examinations presented variations in character. One showed a marked carbohydrate fermentation—acid in reaction, excess of fermentation, and some mucus mixed with the movement. Microscopically, there was both intra- and extracellular starch. There was an associated hyperacidity, both in the fasting specimen and in the test meal. This child was three years old and weighed 23 pounds. She frequently had loose stools, was pale, very easily fatigued, and sometimes was unable to walk up one step. She rarely played and seemed to want to sit or lie down frequently, was usually irritable and slept poorly, and had dark circles under the eyes.

Another specimen showed marked disturbance of fat digestion. The gastric reading in the case tended toward the higher curve. This child was 5 years old and weighed 23½ pounds. She was very irritable, slept poorly, was hard to control, and had a capricious appetite. Her bowels were not constipated, but were laxative occasionally.

Another specimen showed disturbance of digestion of all the food elements—fat, carbohydrate, and protein. In this case there was a very low-acid gastric reading, with a mucoid secretion.

It would seem, from these studies on a small number of children with malnutrition, that the gastro-intestinal function is a factor, and the findings sufficiently "abnormal" to justify a trial, at least, of dietotherapy and chemotherapy based on the disturbances found.

Instead of the usual advice as to the proper balance of fat, protein, and carbohydrate, a specific diet, suitable for the specific disturbance of the child's gastro-intestinal tract might be more rational; as for example, the elimination of articles of diet known to stimulate acid in the cases of hyperacidity, and in fermentation of the carbohydrates, the choosing of the more easily digestible starches. It would seem to be a more intelligent basis for the scientific practice of medicine.

If relief and cure through similar methods can be obtained for the adult, there is evidently hope for the child, if subjects of malnutrition are approached in the same manner.

SYMPOSIUM ON PULMONARY TUBERCULOSIS

CAUSES FOR THE DECLINE OF TUBERCULOSIS*

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The death rate from tuberculosis has declined from 200.7[1] in 1904 to 93.6 in 1923, in the U. S. registration area. This drop in the last twenty years means a saving[2] of about 100,000 lives a year, or, let us say, of the entire combined populations of Reading, New Castle and McKeesport. So signal a victory over one of the most unrelenting and cruel enemies of the human race has naturally rejoiced the hearts of sanitarians and humanitarians of all professions and ranks. Especially to us as members of the medical profession it is a matter of sufficient importance to pause for a few moments and study the factors at work in this decrease of the tuberculosis death rate.

Is there actually less tuberculosis, or are people securing an arrest of their disease, living longer, and dying from other causes? Will the decline in the rate probably continue? What are its underlying causes?

The disease has ravaged the human race since its earliest civilization; it has been recognized by physicians for centuries. The most important scientific step forward was, of course, the discovery by Koch in 1882 of the tubercle bacillus. Since that time, tuberculosis has been recognized as a preventable and curable disease, and its methods of dissemination have been carefully studied. The foremost of these was discovered to be the transference of the tubercle bacillus from the sick to the well by means of infected sputum and from tuberculous cows to well children through infected milk.

The first concentrated effort to control the disease was started in 1904 when the National Tuberculosis Association set about studying the means of tuberculosis dissemination. With the help and coöperation of the federal, state, and local health departments, a many-angled attack upon the tubercle bacillus was inaugurated. The underlying principle of this campaign has been that tuberculosis was subject to human control. Efforts have been made to check the spread of this disease by the finding of infectious cases, providing hospital accommodation for those unable to be cared for at home, improving the general environment and living conditions of the

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masses and teaching the public the sources of danger. The steady decline in the death rate from that time to the present seems to be ample proof of the effectiveness of the methods employed.

Four of these lines of attack stand out with particular clearness as the chief avenues of success in the movement. They are the diagnostic clinics, the sanatoria, the medical and nursing care, and the educational campaign.

Prolongation of life and arrest of disease of tuberculous patients is almost directly dependent upon early diagnosis and proper treatment. People have come to realize that the patient with a minimal tuberculosis is potentially as ill as if he had pneumonia or typhoid fever. The only difference is the time factor. Unrecognized or improperly treated, the tuberculous individual has little chance to avoid the consumptive's grave although death may be separated from onset of clinical signs and symptoms by many years. It is this very chronicity with the absence of severe symptoms at the onset which many times causes the patient to lose his chance of recovery. It is also the long period of invalidism which creates such an economic loss and makes tuberculosis outrank all other diseases as the scourge of the human race.

The free diagnostic clinics have no doubt been a dominating factor in the early recognition of tuberculosis. The fact that they are free has encouraged thousands from the poorer walks of life to come for examination who would otherwise have gone on spreading the seed of infection in every direction until death overcame them. Tuberculosis is hard to fight until it is found, and the diagnostic clinic has revealed it in many unsuspected places. It has also proved an unsurpassed school for students, and for the graduate physicians who wished to improve their knowledge of this universal infection it has provided rich and abundant material for the study of cases of varying types of the disease. These clinics are very well attended, and the fact that thousands in all cities are yearly receiving skilled diagnosis and advice, cannot but exert an influence on the decline in the death rate.

Medical treatment as evolved during twenty years has crystallized into an effort to help nature help the sick person; rest, fresh air, and good food roll glibly from the tongue of the variest novice.

Centuries ago Galen told his phthisical patients to get a cow and live in the mountains. Since medical science as yet has not produced a specific remedy, physicians still to a large degree give the same advice; but the intelligent application of these fundamental factors of treatment is no doubt responsible for returning many patients to a normal and productive life.

Rest, as the term is applied today, however, means absolute rest of mind and body augmented where possible by local rest of the diseased lung by simple artificial pneumothorax or surgical collapse of the lung. Rest of mind can be obtained only when the patient is free from financial worries and family responsibility. The tuberculosis sanatorium has not only made this type of rest possible, but has provided means of segregating thousands of patients each year who, if left at large, would have been a source of great danger to those with whom they came in contact. In 1904 there were 96 sanatoria and special hospitals in the United States with less than 4,000 beds, while today the number of beds exceeds 70,000.

Haven Emerson[3] says that "in addition to the human contribution to treatment, cure, relief and postponement of death made by the tuberculosis sanatorium and the segregated treatment of the consumptive apart from other sick bed-patients in hospitals, this resource has meant to the sanitarian the same logical protection of the family, the public, the fellow workman, that has been attempted in other communicable diseases as soon as knowledge of the infecting agent and the probability of personal-contact transmission were established." In hospital work it has been shown that the sound education the patient receives in personal hygiene, and which he in turn transmits to his family and circle of friends, is not the least valuable result of the sanatorium régime.

Not many years ago it was thought that all patients must migrate to favorable climates. Thousands of misguided individuals hastened their end in the search for a climate where they could regain their health without the long monotonous routine of rest. The West and Southwest was flooded with these unfortunates who, stranded hundreds of miles from home and friends, were denied the food and rest essential for their recovery. This does not mean that climate has no value, but it is known today that treatment can be successfully carried out almost anywhere in the United States. For those who can afford to migrate with their families to a more pleasing climate, by all means let them add this aid of nature to the doctor's ministrations. But for the rank and file, tuberculosis is too expensive and long-drawn-out an illness to afford the one or more years' stay in a distant health resort. It is especially unfair to the far-advanced patient to separate him a great distance from his friends during the last few months of his life. The care of the advanced consumptive is a prob-

lem which confronts every practitioner; but one of the greatest steps towards its solution in Pennsylvania was made when the last State Legislature passed an act which authorized counties to erect and maintain tuberculosis hospitals for patients coming from their respective localities.

A few words might be said here concerning the statements frequently made by a group who believe the tendency to have tuberculosis is inherited and that those who develop phthisis are of a special type whose constitutions have doomed them to tuberculous disease. They believe, first, that the decline in the death rate will not last; second, that the lives saved are those of weaklings who might better have died, and third, that we in the public-health movement have had little to do with the decline, as the whole thing is the result of natural causes. In an article published in 1923, Dublin discusses this theory in detail and points out that geographical variations in the tuberculosis death rate and the difference in the death rate of the two sexes in given age groups is difficult to reconcile with the statements of the geneticists. He shows that in the year 1917 the death rate in cities was 159.2 and in the rural areas 130.3 per 100,000. The death rate from tuberculosis is very much lower in some states than in others. Nebraska, for instance, in 1921 had a rate of 37.1 per 100,000. The figures increase gradually, Delaware being the highest, with a rate of 140.6. The same is true in the large cities of the country. Akron comes first with a rate of only 46.9 in 1921, while New Orleans is at the other extreme with a rate of 189.8. This does not take into consideration such cities as Denver, where deaths from migratory consumptives makes the rate over 200 per 100,000. The geneticists cannot convince most of us that the people of Nebraska have a physical inheritance superior to those of Delaware, or the citizens of Akron to those of New Orleans.

This theory is further shown to be groundless when we consider the male and female children of the same family, with exactly the same inheritance. There is a marked difference in the death rate in the two sexes, and this difference is not constant, but varies with the age.

When the whole life span is considered, tuberculosis mortality is much higher among males than among females. Up to the age of ten the rate is nearly the same in the two sexes. Beginning with the age of ten, the rate for females is higher than for males, and continues for the next fifteen years of life up to the age of twenty-five. Beyond the age of thirty, the rate for females drops, and for the rest of life is below that of males. The white male reaches his maximum at the age of forty-two, while we find the peak for the female to be about twenty-seven years.

Another outstanding fact is the marked difference in mortality which prevails in the various racial groups composing the population of the country. It is a well-known fact that tuberculosis is not as fatal among the Jews and the Italians as it is, for instance, among the Irish. But even with these marked racial differences, there is a decided variation in the death rate of these respective groups apparently dependent on their environment and living conditions. The death rate of the Irish immigrants in the crowded conditions under which they are forced to live in the city is almost twice as high as for the Irish living in their native country. In other words, admitting that there is racial variation, it is equally true that environment and living conditions are also important factors in mortality. It would appear, then, that the present avenues of attack are on a sane basis and that while no doubt inherited characteristics play some part in the morbidity and mortality rates, yet this seems to be of secondary importance as compared to other factors.

As to whether the decline will last, time alone will tell, but all indications seem to show that if the now successful methods are continued, tuberculosis will some day dwindle to the vanishing point. Constant vigilance is necessary, however; for the flare-up in Germany, when financial distress made imperative the curtailing of food and the general anti-tuberculosis work, has been a warning.

The statement that the lives saved are those of weaklings who might better have died is absurd. The tuberculosis germ is no respecter of persons. Some of the best brains in every field of art, industry, and the social science have fallen victims to the disease. Many of these people have recovered, some to take up again their own particular work, and others to become interested in public-health activities and to give their lives to the fight against disease. Apropos of this point, the following is quoted from an unpublished letter of G. J. Drolet, statistician of the New York Tuberculosis Association, who states: "If you doubt that the years saved are productive years, I should like to recall to your attention the fact that it is especially sanatorium graduates who are the best leaders of thought and action in the anti-tuberculosis movement which has accomplished so much not only against that disease but also for public health in general. I have no hesitancy in saying that generally the type which fights and survives tuberculosis has

on an average a greater initiative and capacity for accomplishment than those who have not been so tried and weeded out. Thanks to the somewhat complete and classified registration of cases of tuberculosis in New York City, we are aware that only 12% at any time are in sanatoria, which would leave 88% not receiving a prolongation of invalidism."

These lives, therefore, are productive lives. It is the universal experience that there is a quick sorting out of cases after discharge from sanatoria. Those who do badly, or fail to keep the rules outside, die within a couple of years; the rest get well and return in most cases to their former pursuits. It is true that arrested tuberculosis cases have a higher death-expectancy rate than the general population. This has been estimated at two or three times the normal for age in discharged cases of incipent tuberculosis, at eight to ten times the normal for discharged moderately advanced cases, and as high as 40 times for the far-advanced graduates; but even so, the productive years still available when this is taken into account will amply repay any community for its outlay. It should be remembered that the advantages of segregation and the education of the family of the advanced consumptive, must be weighed in the balance against his high mortality.

The time has not yet come, however, to stop worrying about tuberculosis as a problem. Homer Folks[4], in a paper presented last May, has expressed in happy phraseology the thought of leading tuberculosis men the country over:

"Notwithstanding the great decline that has occurred, tuberculosis still outranks between the ages of twenty and fifty years all other causes of death in New York State. The great bulk of the deaths from tuberculosis occur in the most productive period of life, when the investment in the individuals is at its maximum, and their return to the community has only begun; when they leave the largest number of dependents who are most likely to suffer from insufficient care, and thus pass on a heritage of ills and evils to another generation.

"We are entitled to great encouragement for the decline of tuberculosis, but we are beginning to feel too comfortable about it. Noting that in the total mortality rate other causes now stand higher, we are likely to overlook the fact that those cases fall preponderantly in the very early or the later periods of life and for that reason alone would be of less significance as a factor in human happiness and well-being.

"In so far as we believe ourselves to be in possession of the knowledge and the methods by which tuberculosis can be brought under a further degree of control, the greatest and clearest responsibility resting upon health authorities now and for some time in the future is to apply all the effective measures for the reduction of tuberculosis, and to modify their efforts in the light of every additional item of knowledge."

Tuberculosis League Hospital.

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SURGICAL TREATMENT OF PULMONARY TUBERCULOSIS*

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In the discussion of Archibald's paper read at Atlantic City last May, Knopf remarked that "pulmonary tuberculosis is no longer purely a medical disease." The history of attempts at surgical cure of pulmonary tuberculosis is a long one and has no place in this brief paper. Alexander says that Carson, one hundred years ago, predicted the development of a mechanical compression that would put the diseased parts in a quiescent state. In 1890 Spengler resected ribs, and coined the term "extrapleural thoracoplasty," used today for the standard operation. Gourdet, Friedrich, Brauer, and particularly Wilms and Sauerbruch have done the most for the development of the present thoracoplasty. Davies in England, Bull in Christiania, Saugmann in Copenhagen and Archibald in Canada, have been apt pupils. Alexander's book, published in 1925, is a complete monograph on the subject.

The operation of thoracoplasty aims to secure a satisfactory and complete compression of the lung, together with an exhibition of the therapeutic properties of rest. In 1882 Forlanini and Murphy simultaneously suggested the use of a gas introduced into the pleural cavity in order to effect this compression and rest, and since then the method has been amplified and used in thousands of cases in sanatoria and hospitals. We have no quarrel with artificial pneumothorax, and agree with Brauer that thoracoplasty is never indicated when a satisfactory compression can be obtained from pneumothorax. It has been estimated that about ten per cent of cases of pulmonary disease are suf-

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

ficiently unilateral to warrant compression of one lung.

In a certain percentage of cases, however, the method is inapplicable because of the presence of adhesions or for other reasons. In 1910 Jacobaeus attempted to solve this problem by his ingenious thoracoscopy with severance of the adhesions with the cautery. But the dangers of this procedure are not inconsiderable, and the average physician or surgeon cannot hope to attain sufficient dexterity to see and cut the adhesion bands through the thoracoscope. Someone has facetiously termed it "key-hole surgery."

If, therefore, the patient with pulmonary tuberculosis fails to get well after sufficient trial of what might be termed medical-rest treatment, and if the indication exists, artificial pneumothorax should be produced. If this fails or is impossible, extrapleural thoracoplasty is well worth while. Even if the pneumothorax is successful, there will be some cases in which the surgical procedure is indicated later. There must me an optimal time when refilling must cease and the lung be allowed to reëxpand. The clinician may determine after several years that it is unsafe to allow the lung to function again and hence thoracoplasty is advisable.

The following is the absolute indication for thoracoplasty as given recently by Archibald: "Patients in whom the disease is practically confined to one lung, with only slight and old trouble in the other lung (the other lung is practically never intact); in whom the evidence of resistance and of nature's attempt to heal through fibrosis is seen in a general contraction of the diseased lung, pulling the rib spaces in, the diaphragm up, the heart, mediastinum, and trachea across; in whom artificial pneumothorax has been tried and found impossible or insufficient because of pleural adhesions; and in whom no evidence of progressive spreading tuberculosis in other organs, or of any other serious disease, can be found. The patient has usually been ill for several years."

It is hard to summarize in words the additions which may be made to the ideal indication given by Archibald. So much depends upon the resistance of the patient, the extent of the lesions in the other lung, the condition of the heart and kidneys, and so on. Generally, the lesions in the better lung must be quiescent or arrested, but this is hard to determine, and Brauer found that from 10 to 15 per cent of those operated on showed a progression, usually to a fatal issue. An apical lesion in the better lung is better than one in the central or lower portion. Certainly, the better lung must be free from suppuration, severe bronchitis, asthma, or not bound to the pleura by extensive adhesions.

In many of the older papers, cavitation is considered an indication for compression, but Wells of Saranac Lake has found that patients with large cavities did not do so well because the cavity is reduced to a certain point only and there remains. Archibald believes that one should not operate in the presence of a large old apical cavity, with little sputum and few or no bacilli. If the sputum is abundant, with large numbers of bacilli, efforts at obliteration may be attempted. Hemorrhage is a good indication if one knows from which side the bleeding comes, and the bronchoscope may be used for this purpose. Tuberculous pleurisy with purulent effusion, either primary or secondary to artificial pneumothorax is generally an indication for thoracoplasty. Moderate degrees of laryngeal or intestinal tuberculosis are not now considered as absolute contraindications. Thoracoplasty must not be regarded as an operation of last resort, for if rest treatment, or even pneumothorax is not followed by improvement, it does not follow that the more extensive compression will effect a cure.

In 1911 Stuertz proposed the operation of phrenicotomy, thus producing a paralysis of the diaphragm on the side operated upon. At the present time we twist out the nerve after the method of Felix in order to reach the accessory phrenic. The diaphragm is elevated about 7 cm. at the end of inspiration and 3 cm. at the end of expiration, unless adhesions prevent. It has been estimated that the volume of the lung is reduced about 25 per cent.

A number of indications have been offered for the independent use of this operation in pulmonary tuberculosis, but they are not apt to stand the test of time. Its greatest usefulness will be found as a supplementary procedure in artificial pneumothorax, as a preliminary to thoracoplasty, and as a trial measure to determine the state of the better lung. The technic is quite simple, the nerve being exposed by an incision in the neck, under local anesthesia.

Extrapleural thoracoplasty is a fairly formidable procedure, not to be attempted except in a well-organized clinic by an operator able to speed up his technic. The method is now known as the Wilms-Saurbruch operation, and consists of an extrapleural resection of from 1 to 6 inches of the eleven ribs, the posterior cut being at the tip of the transverse process of the spinal vertebra. Gas-oxygen, combined with novocain used locally, is the anesthetic of choice. The operation is usually done in two stages.

At the first, the portions of ribs 5 to 11 inclusive are excised. About three weeks should be the interval between operations. Sometimes it is necessary to do a third operation; viz., extrapleural pneumolysis, over the apex. The method of doing this is still in the stage of experimentation. In rare cases a persistent cavity may require external drainage. But this operation is indicated only when a poorly draining cavity persists after the various thoracoplasties have been done.

RESULTS.—Perhaps it is too soon to speak of the "results" of thoracoplasty. The largest collection of cases is that assembled recently by Alexander, 1,159 in number, of which 24.8 per cent were apparently completely cured and an additional 12 per cent were clinically cured. Various degrees of improvement were noted in an additional 24.4 per cent, making a total of 61.2 per cent in which the operation was worth while. The mortality directly due to the operation itself is about 1.5 per cent. During the first two months there will be a mortality of about 13 per cent. About 19 per cent will die later from failure of operation to cure or ameliorate, or from progression of the disease in the other lung. Pneumonia is a prolific cause of death, due to the crippling of the function of expectoration. Alexander believes that preliminary phrenicotomy will lessen the incidence of postoperative pneumonia after thoracoplasty by allowing the abdominal muscles to act more quickly. Statistical figures from single clinics such as that of Saurbruch, Bull, Gravesen, Archibald, etc., are detailed in Archibald's monograph and in my contribution to *Progressive Medicine* last March.

Apparently the results are wonderful considering the material the surgeons must work with. "The extent to which these results can be bettered depends upon the widespread use of the improvements that are being made in operative technic and in preoperative and postoperative management, and especially in the proper selection of patients for surgery. It is probable that in the future, operation frequently will be performed while the patients are in good general condition and while the lesions are almost entirely limited to one lung. Then it seems probable that the present percentage of unfavorable results will be decreased and the percentage of favorable results increased by from 10 to 25." (Alexander.)

A negative Wassermann blood test is one of the requirements for membership in the college fraternities at Albion College, Albion, Mich.

FAMILY TENDENCY IN TUBERCULOSIS*

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Belief in the existence of a hereditary factor upon which the likelihood of an individual to develop tuberculosis depends, has always been almost universal among medical men. Before the discovery of the tubercle bacillus, although even then the question of possible contagiousness had been widely discussed, the commonly held belief was that of direct inheritance of the disease. With the discovery of the bacillus, this view of the matter was effectually disposed of. Nevertheless, through the elicitation of certain facts connected with the frequency of infection without development of the disease, other ideas of similar character persisted.

It became obvious soon after development of the tuberculin test that the infection with tuberculosis was much more general than had been suspected previously. It is common knowledge today that an individual born and reared in almost any civilized community can hardly escape the infection. All races of mankind and all individuals appear to be predisposed to the disease in the sense that very little resistance is offered to the initial infection. The future history of the individual after infection appears to depend, to some extent at least, upon the ability of the host rapidly to mobilize his forces for an effective resistance.

That differences in this capacity for creating resistance do exist, and that these differences are transmissible by heredity and therefore inherent in the individual, are assumptions that are believed to be well-founded from clinical observation. Attempts to demonstrate their existence through the study of statistics have so far not met with a great deal of success. The mere fact that the disease is infectious is a disturbing element tending to render the hereditary influence obscure, even supposing this influence to be very great. Further, the very frequency of the disease makes the history of relationship to a sufferer from tuberculosis of quite ordinary occurrence, thus introducing another confusing factor. It has been fairly well demonstrated that positive family histories are about as common among negative groups as among patients under sanatorium treatment.

A sensible viewpoint to take seems to be that the question is not susceptible of direct statistical proof so far as the frequency of the disease among those having a family history of tubercu-

*Read before the Section on Medicine, Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

losis is concerned. This can not be taken as lessening the probability of the existence of a hereditary influence, since the difficulties in the way of its demonstration are almost insurmountable. By animal experimentation, on the other hand, if this can be accepted as any indication of similar conditions in human beings, differences in the resisting powers of individuals may be brought out with great clearness.

It has been pointed out that apparent differences in individual resistance may depend to a very great extent upon the size of the infecting dose. It cannot be denied that the danger of exposure to massive doses of bacilli in the homes of tuberculous patients is probably a factor of the very highest importance. It seems obvious that the child of a tuberculous parent is likely to suffer a greater liability in this respect than one whose family is free from the disease. This factor, the influence of dose, was mentioned by Newsholme[1], and strongly insisted upon by Cobbett[2], who regarded it as of primary importance. It is easily demonstrable by animal experimentation, especially upon larger animals such as calves, that regulation of the dose of bacilli means the difference between no disease, mild disease, chronic disease, and rapidly fatal disease. The influence of this factor in the acute and rapidly fatal generalized tuberculosis of childhood is probably decisive. It is reasonable to suppose that such severe cases are actuated by the implantation of massive doses sufficiently large to overwhelm the defensive mechanism, even supposing this to be reasonably efficient under ordinary circumstances.

With our present ideas of the long latency of the disease, however, it is not so easy to understand how the size of the infecting dose could have any very great effect upon the development and course of the adult type of pulmonary tuberculosis, perhaps developing many years after the infection is received. The possibility of the dose factor being of greater importance than appears on the surface cannot be denied. Nevertheless, while the influence of dose upon the character and course of the disease is readily demonstrable by animal experimentation, the influence of differences in individual resisting powers is no less easily brought out by the same means.

Every physician engaged in tuberculosis work is familiar with the occasional instances in which rather severe tuberculosis appears in members of the same family one after the other, the resistance of the stock seeming to be patently defective. In view of this occasional occurrence it seemed not improbable that variations from the usual onset and course of the disease might be expected in other cases having a positive family history. For this reason the histories of 630 cases[3] were abstracted, the admissions dating from 1916 to 1922. The greatest care was taken to exclude all cases in which the diagnosis of pulmonary tuberculosis was not positively established. No preventorium, or other cases of this type, were included. The only other consideration in the selection of these cases was the ability to ascertain the present condition of those who had not succumbed to the disease. Every effort was made to follow these up, and thus to include all possible patients who had been admitted during this period.

These cases were then divided into two groups, one of which included those in which the family history was positive to the extent that one or both parents had died of tuberculosis. Those patients who had brothers or sisters victims of the disease were not included, since, although the evidence of defective resistance in the stock was fairly satisfactory, only direct evidence was desired. The group, selected in this manner, was surprisingly small, comprising 70 cases. The remaining 560 cases were used as controls.

Perhaps the most significant finding disclosed by a study of these two groups was brought out by a comparison of the ages at which the disease had its symptomatic beginning. In the series presenting the positive family history the average age at onset was 23.2 years, the crest age being from 20 to 24. The disease began symptomatically in 68.8% of these cases before the age of twenty-five.

AGE OF ONSET

	Cases with positive family history	*Controls*
Below 14 years	15.8%	2.7%
15-19 "	22.9%	12.3%
20-24 "	30.1%	29.8%
25-29 "	11.4%	24.9%
30-34 "	10.0%	13.0%
35-39 "	2.8%	6.3%
40-44 "	2.8%	5.2%
Over 45 "	4.2%	5.8%

In the control group the average age at onset was 27.3, more than four years later than that of the positive series, and the crest age was again from 20 to 24. The onset took place before twenty-five in less than 45% of the cases, as against nearly 70% in the positive series. The greatest disparity existed at the age group below 14, the percentage of cases presenting a positive history being almost six times greater at this period than that of the controls. The five-year period between 25 and 29, on the other hand, showed a similar preponderance in favor of the control group, 25% as against 11.4%.

Study of the end results of treatment in these two series reveals differences, perhaps less striking, but nevertheless possessed of some significance. It has been asserted, notably by Drolet[4], that a greater tendency to recovery exists in patients descended from tuberculous parents than in those whose families have hitherto been free from the disease. The study of the cases under consideration, perhaps because of the rigid methods used in their selection, does not convey any such impression.

COMPARATIVE STUDY OF END RESULTS

		Dead	*Under Treatment*	*Working*
under 25—	Positive—	68.3%	20.8%	10.9%
	Controls—	60.1%	21.9%	18.0%
over 25—	Positive—	50.0%	40.9%	9.1%
	Controls—	54.7%	26.8%	17.8%
total	Positive—	62.8%	27.2%	10.0%
	Controls—	57.1%	25.0%	17.9%

Of the cases presenting a positive history, 62.8% are dead, 27.2% are known to be still under treatment, and 10.0% are so far recovered as to be able to return to work. The control group showed a percentage of 57.1% dead, 25.0% under treatment, and nearly 18.0% able to work. A study of the results of treatment by age groups resulted in essentially similar findings, the higher mortality of the positive series being accentuated somewhat under the age of 25. As might be expected, the average course of the disease in the fatal cases, was less in the positive series than in the controls—2½ years after onset in the one and over 3½ years in the controls. The usual greater severity of the disease at early ages is assumed to be responsible for this, and possibly in part for the greater mortality among the positive group as well.

The number of cases dealt with in this study is relatively small, and therefore no very positive assertions can be made with regard to the results obtained. Should these findings be borne out by future investigation, however, it will be difficult to escape the conclusion that tuberculosis, where fatal parental disease is present, makes itself evident earlier in life, and is rather more acute in its course, than is usual in other cases. It seems probable that where the resistance of the parent has been faulty to such an extent as to lead to a fatal termination, that of the offspring who develop the disease is also likely to be ineffectual. The possibility of transfer of an excellent resistance from a parent who has succeeded in overcoming the disease must be borne in mind. There is nothing improbable in the supposition that the resisting powers transmitted from parent to child may be a more or less faithful reflection of those which the parent himself has been able to achieve.

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HOW THE COMPONENT COUNTY SECRETARIES CAN ASSIST THE EDITOR OF THE STATE JOURNAL*

FRANK C. HAMMOND, M.D., F.A.C.S.
PHILADELPHIA, PA.

The various state journals are official organs of the respective state medical societies. They have taken the place of bound annual transactions, and have proved far superior as a means of preserving the annual proceedings, reports and general affairs of each state organization. They faithfully record the work of each society, giving full reports of meetings, papers read by members, discussions, etc., of interest to the members taking part therein. These society organs, unlike the former bound volumes, take advertising, which helps to defray costs and permits much better service in keeping members posted on organization affairs. A copy is supplied to each member, and a certain portion of his annual dues is apportioned as subscription to the official organ. The editor and publication committee are elected from year to year.

The ATLANTIC MEDICAL JOURNAL thus plays its rôle for Pennsylvania and Delaware.

The members of a county medical society need to be informed regarding the activities of the society and its committees. They gain this information principally by attendance at the meetings, but partly by meager reports in the daily newspapers, and to a slight degree by word of mouth. None of these methods record the information in permanent form.

The officers of the component county medical societies depend to a certain extent upon the publications of their respective county societies. The central staff of the ATLANTIC MEDICAL JOURNAL is expected to keep itself informed of the plans and methods of work of the various county medical societies, to be able to advise how to promote the interests of the societies and their members and how to enable the medical profession to fulfil its duty to the public, and to carry information from one society to another in order to weld the members into a great medical fraternity for mutual help and inspiration.

The county-society secretary is the liaison officer between the editor and the members. It is to him the JOURNAL office must look to carry

*Read at the twentieth annual Conference of Secretaries of Component County Medical Societies of the Medical Society of the State of Pennsylvania, Harrisburg, Pa., October 6, 1925.

messages from the editor to the county society and vice versa.

The names of all officers of the county society should be sent to the JOURNAL office as soon as they are elected. Several months should not be allowed to elapse before this information is received.

The county-society reports can be made a very interesting and most valuable portion of the JOURNAL. In a number of instances the secretary is also the county-society reporter. Where he is not, he can assist the reporter to prepare his reports by passing on to him society news in advance and making such suggestions as will make his reports more interesting. In cases where the secretary is also the reporter, the following suggestions will be worth considering:

(a) To be of value, the county-society reports must be read. To be read, they must be interesting. To this end, they should not be a mere record of meetings held, with the dates, the members present, and the titles of papers read. On the contrary, they should contain accounts of interesting activities in the counties, reports of public-health meetings held and propaganda put across, actual accomplishments in sanitation, in Schick-testing, in smallpox vaccination, accounts of particularly interesting cases of epidemics and how they were handled, and abstracts of the most interesting papers and discussions read at meetings. In a word, the reports should reflect all the worth-while activities of the society and its members, told in such an interesting manner as to make the county-society department of the JOURNAL the most popular department.

(b) These reports should be well and carefully written and edited before sending them in. You may well imagine the despair of the editor on receiving, during the last-minute rush in getting out the JOURNAL, a badly phrased report, written in lead pencil, of a meeting held perhaps two months before. Yet this is precisely what happens month after month. In fact, the greater part of all county-society reports have to be completely rewritten, and instances are on record where entire papers were sent in for the editor to abstract. You readily can understand that we cannot afford the time to do this kind of work. The staff on duty in the office is too small to handle it, however willing.

(c) The reports should be typewritten, double-spaced, and on one side of the paper; and should be correct from the standpoint of spelling, grammar, rhetoric, etc.

Leave plenty of margin on both sides.

Before making the final copy, look up the proper form in the last JOURNAL. It will save the editorial office a lot of time.

Take the pains to construct carefully and write interestingly.

Send in reports immediately after your meetings. Don't wait until the news is stale.

Do not clip your reports from the newspapers. It will pay to take the time to write them yourself. If you don't, the editor must.

The editor is firmly convinced that while this department has shown great improvement in the past few years, much can be done to increase its value—and this is largely up to the secretaries of the component county societies.

If one may judge by the many members who have been heard to remark that they always turn to the "News Items" first, this department is an important one, and worth developing. It ought to contain notices of all deaths, engagements, marriages, births, and other items of interest to the profession of the State. To date, the editor has had very little assistance in gathering these items. Two or three individuals throughout the State have been kind enough to contribute to this column. Otherwise the items have been culled largely from the few newspapers that the office has time to peruse, and from county-society bulletins.

Obviously, the news column could be greatly improved if *all* county-society secretaries, particularly in those counties which do not publish a bulletin, would contribute. Jot down the personal news that comes to your attention, and clip items of interest from your local papers. Slip them into an envelope with your name, and send them to the JOURNAL office *before* the 20th of each month. It will help to make your JOURNAL vastly more interesting.

We are trying out a new column, following the editorials, called "Jots and Tittles." The purpose is to run short comments on timely matters not important enough to require an entire editorial. Your assistance in gathering material for this column will be appreciated.

Beginning with the October issue, three new departments will be inaugurated: Public Health, Industrial Medicine, and Hospital Activities.

It is obligatory for the JOURNAL to publish the papers read at the annual session. A small number of other papers are also desirable. County-society secretaries can assist in this matter by sending us papers of particular value read before their respective societies. Owing to limitations of space, the editor may not always be able to accept these, but it is worth while to give the JOURNAL an opportunity to publish the best literary output of our organization. Short reports of especially interesting cases are also very valuable, and the secretaries can assist by soliciting these when such cases come to their attention.

It is not always possible for the editor to be in touch with the latest developments in all the counties. Doubtless many things occur which receive editorial comment. The secretaries can assist him greatly by sending in the facts regarding such events, or even at times by providing short editorials on the subjects.

Prompt replies to inquiries from the JOURNAL office are a notable aid to the editor. Nothing is so trying as waiting for information which does not come.

Owing to the county-society bulletins, which largely carry the local advertising, and to the *Journal of the American Medical Association*, which appeals to the national advertisers, it is quite difficult to secure an adequate advertising representation in the JOURNAL. The secretaries can assist more than they have any idea by keeping the office informed as to new and acceptable advertising prospects which appear in their respective counties, and also by inquiry of the detail men who visit their offices as to why their firms do not advertise. Increasing the income from advertising reduces the cost of the JOURNAL to the members, and makes possible expansion of its pages.

Notify the office promptly of all changes in address. Members so frequently forget to write us when they move, that a large number of such notices come to us from the post offices of the State.

In short: keep us in touch with the happenings in your county, and we, in return, will keep you informed about the activities of others inside and outside of the State. Coöperation is a tremendous force. Let it be your keynote, and your JOURNAL will develop on a scale otherwise impossible.

STATISTICAL STUDIES IN CANCER

Whether cancer mortality is actually increasing, or whether the increase is only apparent and is due merely to more frequent diagnosis of the disease, are matters of constant argumentation. The influence of heredity is likewise debated. Doubtless the answers lie in statistical studies expertly pursued.....In 1923, William T. Howard[1] tried to answer two questions: Is cancer actually increasing? Is it really curable? He confined himself to material found in Baltimore, where cancer mortality has been reported with fair consistency since 1813. Correcting for the increase in recorded death rates, the influence of sex, race, and age, and the effect of improvement in diagnosis and statistical classification, he concluded, first, that neither the incidence nor the mortality of cancer is increasing among those exposed to risk; secondly, that, from 1880 to 1920, mortality from cancer of the breast and uterus, which can be more accurately computed than that of other organs, not only failed to increase, but, in the last half of the period, declined. This decline he attributed to medical activities; that is, to cures.

Cancer was only incidental to Raymond Pearl's[2] analysis of the situation in 1924. His intricate study, however, arrived at two conclusions that are relevant here. The first of these states that the occurrence of cancer in any individual is but slight evidence of any inherited, constitutional weakness in him. Pearl,[3] furthermore, borrowing from Dublin and Baker, gave definition to the influence of foreign stocks on cancer rates.[4] The Italians, he said, compose practically the only foreign race group whose cancer mortality is lower than that of the native-born group. Of the northern European stocks, cancer incidence is high among the British and Germans, and highest among the Irish. In addition, he showed that general mortality rates, of which cancer is an element, were relatively low among Austro-Hungarians and Russians. These findings are significant in view of the fact that the volume of our immigration has decreased among northern Europeans and increased among Italians and Slavs.

Pearl and Schereschewsky[5] in some part cover similar fields, and one confirms the other. Schereschewsky points out that the more numerous immigration of Italians and Slavs, in whom cancer incidence is lower than it was in the earlier immigrant types, had, if anything, an effect to lessen rather than to increase the cancer death rate in this country. But Howard and Schereschewsky do not agree. To be sure, Howard claimed for his work nothing more than could be inferred from statistics obtainable in Baltimore. Schereschewsky, on the other hand, included in his study the ten original registration states, and his most significant conclusion is that, with corrections made, cancer mortality is actually from 25 to 30 per cent higher than it was twenty-one years ago.

The question no doubt arises: Have we gained anything by these studies? Each investigator is eminent in the field, and yet two of them seem to disagree on that which we wish most to know; namely, whether or not cancer is on the increase. The apparent disagreement, however, is indicative of the value of careful analysis of great, and ever greater, masses of material. The reader of any statistical results must be careful to infer from them no more than the investigator himself infers.—*Journal A. M. A.*, October 17, 1925.

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TUBERCULIN STANDARDIZED BY NEW METHOD

The Chicago Tuberculosis Institute takes pleasure in announcing the discovery of a new way of standardizing tuberculin. This was reported at the recent meeting of the National Tuberculosis Association in Minneapolis as the work of Dr. Esmond R. Long, of the Department of Pathology, University of Chicago.

Tuberculin is used in discovering tuberculosis in cattle and in treating the disease in man. No chemical method of measuring units of tuberculin is at present possible, says Dr. Long, although promising work in this direction is under way. But he has found that it can be gauged by its affect on certain cells of laboratory animals, such as guinea pigs. The results are to be observed under the microscope.

The discovery will be of great service in connection with both bovine and human tuberculosis. The work has been carried on by Dr. Long at the University of Chicago with the aid of a grant from the National Tuberculosis Association, and is part of a series of correlated researches conducted through the Association on the nature of the active products of the bacillus of tuberculosis.

Though a young man, Dr. Long is well known as a tuberculosis specialist; he is a member of the board of directors of the Chicago Tuberculosis Institute.—*Illinois Medical Journal, September, 1925.*

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EDITORIALS

OUR NEW EDITOR

Among the duties imposed by Section 6, Chapter 5, of the By-Laws of our Society upon the Board of Trustees are (1) to provide for and superintend the publication of a medical journal and all proceedings, transactions and memoirs of this Society; (2) to use full discretionary power to omit from the medical journal any part of or in whole any paper that may be referred for publication; and (3) to appoint an editor of the journal.

THE ATLANTIC MEDICAL JOURNAL is published in accordance with the above instructions. This journal, therefore, becomes the official publication of the Medical Society of the State of Pennsylvania, an organization composed of sixty-three county medical societies, and its editor in effect becomes the official mouthpiece of approximately seven thousand four hundred members.

Fully conscious of its responsibility, the Board of Trustees, after six months of careful consideration and observation, presents to the Society its unanimous choice as editor of the ATLANTIC MEDICAL JOURNAL, a member for many years of the Publication Committee, Dr. Frank C. Hammond, of Philadelphia. Dr. Hammond brings to the editorship essential and valuable experience equally extensive in teaching and writing on medical subjects, as well as in county and State Society administration. He inherently possesses great love for the expression and presentation of news and knowledge in the best manner, and he has had the obviously necessary experience to develop the editorial perspicacity to insure proper regard for published expressions regarding the Society's policy or the individual ethics of its members.

Seeking the full support of the members of our Society for the JOURNAL, we commend with confidence our new editor.

JAY B. F. WYANT,
Chairman of the Board of Trustees.

THE SEVENTY-FIFTH ANNUAL SESSION AT HARRISBURG

The seventy-fifth annual session of our State Medical Society, was conducted with great éclat, and grateful appreciation is extended to the five county societies acting as host. They anticipated to the fullest extent the import of the session, and availed themselves of every opportunity that the entertainment of the members and their families would be all that possibly could be desired. The social entertainment is necessary to supplement the main activities of our meetings.

The invocation was given by Rev. Dr. Robert Bagnell, and addresses of welcome were delivered by Mayor Hoverter, and Dr. George B. Kunkel, President of the Dauphin County Society, on behalf of the Cumberland, Lancaster, Lebanon, York and Dauphin County Medical Societies.

Dr. Ira G. Shoemaker was installed as President, and delivered an address of an historical nature.

Dr. William D. Haggard, President of the American Medical Association, graced the session with his presence, and delivered several addresses. His address before the twentieth annual conference of secretaries on "Pushing Periodic Health Examinations—An Obligation of the County Medical Society" was a masterpiece; and it is to be hoped that each secretary will be able to carry the message to his respective county society. The American Medical Association at

its meeting three years ago incorporated this movement in its activities, and has prepared a blank for this work which may be secured through Secretary Donaldson.* The National Health Council and various other agencies of like nature are interested in this movement, and have adopted as a slogan, "Have a Health Examination on your Birthday," which in reality means an annual examination. This examination should be a thorough one and done by a competent examiner, and in most cases that examiner will be the family doctor.

If we would be benefactors to the people who are to follow us, we must begin to put into practice those things which we know from actual experience are for the betterment of the human race; and if some of us will not do it from other than a monetary motive, we may show them that aside from the good to the human family, it has an intrinsic value. If it pays large corporations to look after the health of their employees, and if insurance companies, by offering their policyholders free examinations and instructions in sanitation and personal hygiene can, as one company did last year, effect a saving of two million dollars over the cost of this service, it certainly would apply to any individual and any given community.

The Committee on Scienitfic Work made an untiring effort to have this meeting our best, and is to be heartily congratulated. To progress, we must surpass. Those who attended this session have added to their store of medical knowledge, and received an inspiration which will continue for years to come. A most enjoyable and profitable part of the scientific program is the mental pabulum disseminated by our distinguished guests who honor us at our annual meetings.

The system inaugurated at this session for the ringing of bells to control the time limit of speakers, and its other features, is commendatory, and should be given a further trial. In developing the idea adopted as to presentation of papers, it would seem advisable to have a fewer number in order to allow ample time for discussion, for frequently the most instructive part of the average medical meeting is the discussion of the formal papers.

The brief presentation of one's personal cases adds value to the general fund of medical knowledge, and the case reports submitted were well worth while and of interest to the profession at large, and should continue as a feature.

The section luncheons also were very popular.

The House of Delegates was cognizant of the responsibility that devolves upon its members, and satisfactorily conducted the business entrusted to it. Dr. Harry W. Albertson, of Scranton, Trustee and Councilor for the Second Councilor District, was elected President-Elect. Dr. Albertson has served the Society faithfully for years, not only as Trustee and Councilor, but as Chairman of the Finance Committee of the Board of Trustees. Dr. F. J. Bishop of Scranon was elected Trustee and Councilor to succeed Dr. Albertson.

The question arises at times: Does the House of Delegates use to the fullest extent the reports of the Councilors?

Dr. J. B. Wyant was reëlected Chairman of the Board of Trustees.

A Trustees' committee was appointed to study the rearrangement of the councilor districts, the recommendations to be submitted to the 1926 House of Delegates. Any county medical society interested in this matter should communicate with the Chairman of the Committee, Dr. Lawrence Litchfield, of Pittsburgh.

The Trustees approved the drafting of a non-designate one-board bill, and a committee was appointed to perform this task.

The Scientific Exhibit was more than worth while, and the Heart Exhibit surely will stimulate further interest in the modern aspects of heart affections.

The Commercial Exhibit was of an unusually high type.

One of the most enjoyable social features is the Presidential Ball, the affair this year being enjoyed to the fullest extent.

The Public Meeting, which concluded the session, was ably addressed by Dr. Alexander Lambert.

The Woman's Auxiliary of our State Medical Society is to be congratulated upon its activities. Out of sixty-seven counties in Pennsylvania, thirty-two have auxiliaries, with a combined membership of 500. Mrs. James I. Johnston, of Allegheny County, was elected President.

He who attends meetings regularly, even if he does not impart his experience to others, must leave a better man, better by the knowledge he absorbs while listening to others. Roosevelt said, "Every man owes some of his time to the upbuilding of the profession to which he belongs." Attendance at meetings often has led to ties of the most fruitful type and warmest friendships among medical men the world over.

May the Diamond Jubilee Session ever remain a pleasant memory!

* The blank prepared by the State Society's Committee on Public Relations also may be secured through Secretary Donaldson or from the *Atlantic Medical Journal*, 230 State St., Harrisburg, Pa.

THE LEWIS S. McMURTRY MEMORIAL NUMBER

The September number of the *Kentucky Medical Journal* is devoted by special order of the Kentucky State Medical Association to the memory of Dr. Lewis S. McMurtry, who died February 1, 1925, at his home in Louisville, Kentucky. Through his death, the University of Louisville School of Medicine loses the oldest and best-known member of its faculty. "His was the hand of the peace-maker, the mind of the pioneer, the poise of a man who knew men and loved to work with them. It is conservative to say that no man in his generation has done more for the medical profession and the public than he."

The following quotations are from some of the articles contributed to this number: "In Memory of my Friend," by J. M. Matthews, Seattle, who truly says, "To write of the dead is always a melancholy thing, but to write of a dead friend is doubly so." In "A Tribute," Howard A. Kelly writes, "To us Northerners, Mac always possessed that charm of manner, that delightful fluency of speech, and that winning accent which seemed naturally to emanate from his gracious personality and which connotes the Southern gentleman." In "An Extramural Appreciation," Dr. John G. Clark mentions, "When a discussion became stormy, and an issue appeared to have reached an impassé, his was the kindly and judicious advice which brought order out of chaos. His personal motive was never questioned, for no selfish desire swayed him when a matter of principle was at stake."

In "Dr. McMurtry As A Friend," G. A. Hendon, Louisville, says, "He found his supreme delight in the companionship of his professional contemporaries. It was the fledgelings of medicine who were the chief beneficiaries of the fruits of his knowledge. It was an inspiration to view the tenderness and the patience and the parental pride with which he taught them to plume their young wings for the altitudes of professional flight. In the Council Chamber and in the Forum when he chose to speak, the wisdom of Nestor flowed from his lips and no stately steppings into oratory ever surpassed the velvet splendor of his eloquent tongue." In "Some Recollections of Lewis S. McMurtry," F. W. Parham, New Orleans, among other incidents, refers to the fact that Dr. McMurtry was the first to be elected President-Elect of the American Medical Association, in 1904, and that his first great public service was rendered at the age of twenty-five, when he threw himself into the task of consecrating the memory of Ephraim McDowell.

Dr. McMurtry's daughter concludes her tribute as follows: "The following lines from Bleak House, a volume often in his hands, have always depicted my own appreciation of him, through years of happy companionship—though that appreciation is, of course, beyond all words. 'I never walk out with him but I hear the people bless him. I never go into a house of any degree, but I hear his praises, or see them in grateful eyes. I never lie down at night, but I know that in the course of the day he has alleviated pain, and soothed some fellow creature in the time of need. I know that from the beds of those who are past recovery, thanks have often, often gone up in the last hour for his patient ministration. Is not this to be rich?'"

In "An Appreciation," Dr. W. J. Mayo refers to having first met Dr. McMurtry at the private hospital of Dr. Joseph Price in Philadelphia, and through the former he grew familiar "with what was then known in Philadelphia as the tenement-house school of abdominal surgery, a group of daring surgeons, none of whom had hospital affiliation or appointment." He specially mentions Howard A. Kelly, Charles B. Penrose, and John M. Baldy. Dr. Franklin H. Martin pays his tribute to "The Cavalier." In his address, "The Man I Knew," Dr. C. A. L. Reed suggests that the writings of Dr. McMurtry be gathered and published; that a professorship in the University of Louisville be created and endowed in his name; and that an annual oration based on McMurtry's character and writings in relation to surgery be arranged for.

The Kentucky State Medical Association is to be commended for this memorial number to so distinguished a member of the American medical profession, equally loved and honored abroad as at home, and who was internationally held in the highest esteem, one who passed away after four days' illness, "Like one that draws the drapery of his couch about him and lies down to pleasant dreams."

ANOTHER EFFORT AT COALITION

In the light of Pennsylvania's efforts to combine the medico-literary productions of several states into one worth-while publication, the following, gleaned from the *Maine Medical Journal* of September, 1925, is of particular interest:

"At the 73rd annual meeting of the Maine Medical Association held at Bar Harbor in June, 1925, Dr. Ralph Jackson, delegate from the Massachusetts Medical Society, stated that he is of the opinion that some effort had been made to organize a New England Medical Society, with the idea of bringing the New England

States into closer contact professionally. Such an organization of state societies should have an organ of publication, and some suggestion has been made about the *Boston Medical and Surgical Journal.*"

Owing to the name, *Boston Medical and Surgical Journal,* there has been some objection to its adoption as the official organ of a New England Society. The editors, however, feel that the name should be changed, and it probably will be, in 1928, to the *New England Medical Journal,* when the contract with the former owners expires on the hundredth anniversary of the founding of the *Journal.*

This journal is now the official publication of the Massachusetts Medical Society, and is published weekly. The *Maine Medical Journal* is published only once in three months; Rhode Island has only a very small journal; and New Hampshire has none at all. "Some effort has been made to interest the different states, and perhaps there is more feeling in favor of some such organization in Maine than there is in any other New England State. This is in keeping with the idea of coalition of journals of certain state medical societies, in order that a better journal will thus be published, instead of several mediocre ones."

The practical application of the axiom that strength lies in union seems to be gaining ground. Four or five such coalition state journals are now published, to the mutual satisfaction of readers, editors, and advertisers. The organizers of the movement in New England have our best wishes for their success.

THE WORKMEN'S COMPENSATION LAW

It is a twice told tale, and perhaps an uncomfortable reminder, to tell the medical profession that they were literally asleep when the tenets of the Workmen's Compensation Law were enacted. Perhaps the pardonable excuse is that new things do not readily percolate through the mind of the average physician. He must be shown by practical application the desirability of an innovation. There is no lack of proof that the Workmen's Compensation Law is acting favorably for a few but to the great disadvantage of the medical profession to which the injured looks for relief.

The law deals hard blows to some of the fundamentals enjoyed by the profession from time immemorial. The inalienable right of the patient to choose his own physician has been abolished. Many times has the injured complained that this is his greatest hardship, because the physician in whom he has placed the greatest confidence has been denied him. Half the battle in medicine is won through faith, that unfailing belief in the ability of one's family physician to restore him to health.

Could the law have inflicted a greater injustice than the shattering of the ethical relations between the physician and his patient?

The allegation that hurts most is that physicians have been dishonest. If dishonesty has been practiced by some, it has been abetted and stimulated by the insurance carriers who have not been honest with the physicians. The former's narrow-minded business methods have no doubt caused bills to be padded by those who have not been treated fairly by the insurance carriers. Many complaints are still being registered by individual physicians concerning the cutting of their bills. It has been observed that the home office is not always in harmony with the local office conducted by an over-zealous adjuster.

THE RESPONSIBILITY OF THE MEDICAL-BOOK REVIEWER TO THE READING PUBLIC

A very large sum of money is spent annually by the physicians of America in the purchase of medical books. This is in the nature of an investment in postgraduate study. To a large extent the selection of these books is influenced by the medical-book reviewer. It follows that the obligation of the reviewer to his reading public requires the utmost frankness in his estimate of the value of the book which he reviews.

It is very interesting to study the reviews in any of the medical publications enjoying a large circulation. One is impressed by the gentleness with which the reviewer handles the feelings of the author and the publisher. It is very rare indeed to find a frank condemnation of a poor book or of a poor section of a good book. Such criticism as is offered is usually couched in such delicate phraseology as to rob it of its purpose. It would be very refreshing to find a statement that a given book should never have been published, if such a statement is deserved. However, one never sees so frank a criticism, though it is certain that many books are produced annually for which there can be no possible excuse.

There is no place in which the reviewer of medical books fails his public more grossly than in the review of new editions of older works that have been more or less successful with the medical public. Oftentimes the best that can be said of such reëditions is that they contain a chapter or two of information which has been accumulated since the publication of the previous edition.

The great mass of the material in such books often is wholly unaltered except for the typographical errors which sometimes are corrected. Statements long since known to have become obsolete are common, and not infrequently are in direct contradictions to the new material which has been added to the book. It is probably harder for the author to rewrite an old book than to produce a new one, and it is certainly more profitable to the publishers to utilize as much as possible of the old material in a new edition. This is, however, a very unfair practice and should be whole-heartedly condemned by the reviewer.

Another of the abuses of the publication of books on medical subjects occurs in the presentation of elaborate textbooks on single conditions, single methods of treatment, or the exposition of an unproven hypothesis. One has in mind such a book published within the last two years, of considerable size, and devoted entirely to a medical procedure which does not have the approval of even fifty per cent of the profession justified in holding an opinion on the subject.

One of the most flagrant abuses in medical publication is found in the production of elaborate systems of medicine and surgery in some of which the methods suggested and the manner of consideration of disease certainly bear a striking resemblance to presentations offered during the period of the Civil War.

It is hoped that at some future time one may have the joy of reading a truly frank book review in which the reviewer has exercised justice not so tempered with mercy as to be insipid. There is always a place for the courageous statement of an honest reviewer.

ABDOMINAL MANIFESTATIONS OF MIGRAINE

It is desirable to be familiar with this uncommon condition, otherwise an ill-advised operation may be done—in fact has been done. These symptoms are explainable only by interpreting these seizures as the abdominal manifestations of an attack of migraine. Patients thus afflicted have periodic attacks of severe abdominal pain which at first may last one or two hours.

These attacks of pain in the abdomen are often followed by headache and vomiting and other symptoms of migraine. The symptoms may continue for one or two days, and may recur as often as once or twice a month. There is often a family history of migraine which should aid in differentiating this condition from an acute abdominal condition requiring prompt surgical intervention.

The abdominal pain in this condition is usually deep-seated, in the umbilical region, and described as tearing and boring in character. It is a mistake to give such patients vigorous catharsis and put them on a restricted diet, for this leads to loss in weight and decreased vitality which predisposes to a more frequent recurrence of the attacks.

During the attack, the patient should go to bed and rest until the greatest severity is over, and then he should go about his usual daily routine of life.

It is important to maintain the general health of the patient. The condition is incurable and harmless except for the temporary inconvenience. More harm than good is done by much medication and diets, which are valueless. This condition has been mistaken for an attack of appendicitis, followed by a prompt appendectomy which did not prevent recurring attacks. It may occur in children as well as in adults. A careful personal history, family history, and physical examination should make the differential diagnosis easy, and thus prevent an unnecessary operation.

WHOLE MILK, MODIFIED MILK, OR BOILED MILK IN INFANT FEEDING

Much has been said and written of late concerning the respective merits of whole, modified, and boiled milk in the feeding of infants, and an editorial in the *Medical Journal and Record* for August 5th on the subject of whole milk concludes with the statement that "this country may be termed virtually the home of modified-milk feeding of infants, and it would be instructive to learn the views of authorities here as to the respective merits of whole and modified milk for infant feeding." Among the authors quoted in this editorial, there were many and great differences of opinion concerning the advantages of whole milk and modified milk, and no conclusion seemed to have been reached as to which was the better to use in the feeding of infants.

When it comes to whole milk, boiled or unboiled, again the difference of opinion is great, although in an article appearing in the August issue of the Atlantic Medical Journal, an author states "there are only two objections to boiled milk: (1) vitamins are destroyed; (2) some infants tend to become constipated. These are minor, because vitamins can be replaced by the early addition of orange juice and cod-liver oil to the diet, and constipation usually is prevented or overcome by very simple measures."

It would seem that all are right and all are wrong. In other words, all methods are good and all are bad, taken in the aggregate; but, if

one individualizes, as always should be done in the artificial feeding of infants, different methods will be found to work well in different cases. It is up to each man doing pediatric work so to familiarize himself with the advantages and disadvantages of the various methods, and so to equip himself with the methods to be employed in determining the best way to feed the individual case that in no way would he be influenced by the opinions of various authors as to the best way to treat the masses, applying his knowledge and experience exclusively to the handling of the individual patient.

One point that largely should determine whether or not the milk should be boiled is the question of the purity and cleanliness of the milk supplied to the particular community. In the editorial referred to, it is admitted that there is great necessity for boiling milk in Great Britain owing to the impossibility of obtaining a perfectly pure supply; whereas, in Philadelphia and, in fact, throughout a good part of the United States, the milk supply is so carefully supervised and thoroughly controlled that boiling surely should not be necessary merely for the sake of feeding the infant a pure and safe milk. This does not mean that boiling milk would not have its advantages in certain cases, even in this country, but the fact remains that it would not be *necessary*.

Another point that should influence the decision as to the necessity of boiling the milk is the condition of the infant's bowels. In other words, as stated in the quotation herewith, boiled milk tends to constipate, and is therefore of some advantage where an infant has an excess number of loose, watery stools per day.

From the foregoing, there would seem to be no necessity of so much discussion as to the relative merits of whole milk, modified milk, or boiled milk. In the case of an unsafe milk supply, it should be boiled unless the baby is already constipated, in which case the physician would have to determine which was the lesser of the two evils. This should not be a difficult decision to make, as it would surely be wiser still further to increase the constipation by feeding a boiled but safe milk, even though some simple methods had to be employed to overcome the increased constipation.

When it comes to whole milk versus modified milk, again the decision should not be difficult, nor should so much discussion on the matter be necessary. An infant needs the strongest food it can handle without digestive disturbance, one baby being able, naturally, to take whole milk several months earlier than another.

If the personal equation of the infant is only taken into account, there should be little trouble in determining whether or not it can handle whole milk, or had better be fed on modified milk, at least for the time being, reserving the question of the necessity of boiling to be decided according to the safety of the milk to be used.

CONGRATULATIONS TO KENTUCKY STATE MEDICAL SOCIETY

While our State Medical Society was having its 75th annual session, the Kentucky State Medical Society was celebrating its 75th annual meeting at Louisville, October 5th to 8th. The Keystone State begs to share with the Blue Grass practitioners all the pleasantries connected with a Diamond Jubilee; and to extend best wishes for the years to come.

JOTS AND TITTLES

THE NEW REGISTRATION LAW

The features of the new law appear in this issue, in the Secretary's Department. It is exceedingly important that every legally licensed physician should be informed as to the workings of this law, and register with the Board of Medical Education and Licensure before January 2, 1926. Do not leave this duty until the last moment; attend to it promptly.

THE RED CROSS ROLL CALL

The annual roll call of the American Red Cross for 1926 will be held from November 11th to 26th. This organization has become the recognized agency of the American people for extending special service to suffering humanity. Its work is supported through the membership dues secured once a year at roll-call time. The coöperation of all physicians is urgently requested.

THE FLORIDA BOOM

The land boom in Florida has reached unexpected proportions and lots are selling for unprecedented prices. The temptation to try one's luck is great, and it is out of this human characteristic to take a chance that sharpers make their living. In times past, doctors have been listed as "easy marks." Let us, therefore, if we must follow the crowd to Florida, at least exercise due perspicacity and refrain from buying property site unseen, or from unwarranted optimism in regard to undeveloped sections.

"STARVING FOR STYLE"

The executive secretary of the Delaware County Tuberculosis Society, carrying on a campaign of weighing, has found that many schoolgirls are dangerously underweight and practically starve themselves to keep their figures slender. At Smedley Junior High School, in Chester, twice as many girls were underweight as boys. Eighteen per cent were underweight, many of them as much as 25%. The campaign for weight reduction, leading young girls to believe that if overweight is unsafe, underweight is desirable, should be revised promptly to a campaign for the maintenance of normal weight.

The Second Opium Conference in Geneva

It is interesting to read in the *National Medical Journal of China* the masterly closing speech of M. Zahle, President of the Second Opium Conference, held in Geneva in February, 1925, which session lasted for seventy days. This was the most difficult conference in the history of the League of Nations. The Congress has struck a powerful blow at the drug evil on account of the publicity it has given, which is the cardinal result of the long deliberation. The most serious and the most unfortunate incident of the conference was the withdrawal of the delegation of the United States. The American delegation contended for immediate action; the other delegations felt that time was required. Zahle believes that the delegation from the United States, by its boldness, its directness, and its devotion, has given a supreme impetus to the whole anti-drug campaign.

Anthropological Psychiatry

This term is descriptive of the purpose of Dr. Arthur MacDonald, of 100 East Capitol St., Washington, D. C., to apply to psychiatry those facts and methods of anthropology which may be of most scientific value. One of the latest methods of the latter science is to estimate the weight of the brain on living persons by means of equations. While not absolutely exact, the Lee-Welker-MacDonald formula, so far as tested, gives a fairly approximate estimate of brain weight on the living. The formula is as follows: [(head length—11) x (head breadth—11) x (head height—11) x .000337] plus 405.01 equals cranial capacity in cubic centimeters, which multiplied by .93 gives the weight of the brain in grams on living persons. The 11 millimeters subtracted from each measurement of the head represent the average thickness of tissue on different parts of the head.

Dr. MacDonald is now testing this combined equation on the dead, comparing the findings with the actual weight of the brain, and noting the percentage of error. He purposes then to apply this equation to 4,000 patients in the Government Hospital for the Insane, believing that errors of under- or overestimation, in such a large number of individuals, will equalize themselves and give the approximate truth. As a control experiment, he proposes to apply the equation to the 600 members of Congress, in order to ascertain the percentage in normal persons. As the largest number of insane are about 40 years of age, and the average age of Congressmen is between 40 and 50, and since the insane in this hospital come from all parts of the country, he believes this control experiment will be of special value.

Dr. MacDonald requests that others test the equation at autopsies and send the measurements and estimates to him, for which due credit will be given.

A Unique Event

A complimentary dinner was given on October 13th at the South Hills Country Club, Pittsburgh, by the staff of the South Side Hospital to the staff of the St. Joseph's Hospital, the address on "Medical Legislation" being given by Secretary Walter F. Donaldson of the State Medical Society. This unusual event should be duplicated many times the State over, for fellowship among practitioners of medicine should be cultivated.

Christmas Seal Campaign

State headquarters for the Christmas Seal sale this year are located at 10 S. Market Square, Harrisburg. The quota set for Pennsylvania is $561,000, and the indications are that this will be reached. The support of all physicians will be forthcoming, since this sale finances the work of the Pennsylvania Tuberculosis Society, which is a powerful agency in the almost miraculous decline of the tuberculosis death rate in the past decade.

Rise in the Death Rate Imminent

The president of a well-known life-insurance company says that it is more dangerous to be fat than to travel on an ocean liner, ride on a railroad train, or fly in an aëroplane, that fat is killing off Americans at such a rate that special education is needed. Then, horrors of horrors! comes the news that the boyish figure is going out of style and pleasing plumpness will be the mode for the coming winter. Undertakers, please prepare for an increase in business!

New Anesthetic Discovered

A. J. Copeland, a memorial scholar of the British Medical Association, and H. E. F. Morton, connected with the Cambridge Pharmacology and Chemistry Laboratories, according to reports in the daily newspapers, have announced that in the course of studies to ascertain why novocain was the least toxic of local anesthetics they have evolved compounds from original hydrochlorids which absolutely kill pain in one part of the body without seriously affecting the entire system. They claim to have discovered a new class of drugs which have ten times the deadening power of cocain hydrochlorid, but without its poisonous properties.

Development of Cancer from Needle Prick

Two years ago Henri Vadon, a young Parisian hospital intern, assisting at an operation to remove a cancerous tumor, accidentally pricked his finger with a hypodermic needle that had been used on the patient. A similar tumor has since grown upon Vadon's hand, necessitating the amputation of his arm. This is hailed as evidence that cancer may be communicated, although the possibility is considered that a minute particle of the original tumor actually was grafted on the flesh of his hand.

Reward Offered for Synthetic Morphin

Herman A. Metz, of New York City, according to *Popular Science Monthly*, has offered a prize of $100,000 for the discovery within the next five years of a cheap substitute for morphin. It is his belief that the lower price of such a substance would eliminate poppy growing because it would no longer pay. If properly guarded, the supply of opium products could then be more carefully regulated, with a consequent control and reduction of addiction.

Distribution of Physicians

An interesting survey has recently been made in Kansas. It was found that "practically all towns of the State having over 1,000 population have too many doctors. Towns having 500 population have sufficient, and a few towns of 200 population or less could support a doctor, but offer little in the way of good roads, good schools, good churches, or satisfactory living conditions. Osteopaths and chiropractors do not locate in the smaller places. This survey was so made that towns without or short on doctors would respond."

World Conference on Narcotic Education

The International Narcotic Educational Association has adopted resolutions calling for a World Conference on Narcotic Education in Philadelphia about the third week of June, 1926. The League of Nations is requested to call a conference of the Opium Committee,

the Mixed Sub-committee of the Health Committee, the Advisory Committee on the Traffic in Opium, and other organizations. The President of the United States is requested to invite the governments of the world, and Congress is requested to make an appropriation for a fitting participation of the United States Government.

FRENCH CRUSADE TO EXTEND MOTHERHOOD

The secretary of the French Medical Association, Dr. Jayle, is reported as starting a crusade to prepare public opinion for the social acceptance of unmarried mothers, in an effort to arrest the declining birth rate of France. There are 1,500,000 young French girls for whom France cannot provide husbands, and Dr. Jayle says: "Society, which formerly was absolutely unbending and unforgiving to unmarried mothers, has fortunately, since the war, become more sensible. The remaining step towards actual tolerance and then honoring the unmarried mother is perhaps not so far away as superficial observers think." From the physician's viewpoint, it is a question whether the lowering of the bars would not result in a proportionate increase of disease, and so in the end defeat its own object.

PUBLIC HEALTH

Warnings Should Warn.—A story going the rounds of the newspapers serves to remind health officials that warning notices should be so worded that even a child will heed them. The story is to the effect that a traveler thought a sign reading, "This water is contaminated," was an advertisement of a new mineral water. It is stated that the health authorities immediately substituted the following: "This water is rotten. It is not fit to drink."

Why Not Now?—The Journal of the Michigan State Medical Society suggests that the swat-the-fly crusade be extended to include the mosquito. "Since the mosquito's hiding places, the time of incubation, and habits are known, together with the means of extermination, nothing remains, therefore, to relieve ourselves of this summer's nuisance but an application of the remedial measures.....Efficient mosquito control can be maintained at a very low cost, but, as in the fly crusade, the application must be continuous. The rules to follow are: 'Repeat the doses every ten days to two weeks,' and 'Drain when you can, oil when you must.'" Now is the time to begin to get your community interested for next spring's campaign.

Public-Health Courses.—An increasing number of colleges and universities in the United States are offering courses on public-health subjects in their summer schools. These courses last from three to six weeks, and in many instances an extensive program is presented, with instruction and lectures by authorities in their various fields. There are more than ninety courses in all.

Health Conditions Generally Satisfactory.—"Health conditions in the United States have been generally good, so far, this year," said Surgeon General Cumming, of the United States Public Health Service, in an interview recently. "Preliminary figures indicate that the death rate of the United States for the first seven months of 1925 will be lower than the average for the last five years, in spite of the fact that the rate for the month of June was considerably higher than the usual rate for that month. This was probably due to the heat waves which prevailed over a large part of the United States.

The Mental Hospital in the Field.—The evolution of the mental hospital from an asylum set apart for the custodial care of the "lunatic" to the modern institution equipped with every aid known to medicine and surgery for research, diagnosis, and treatment, and devoted to the intensive study of the mental patient and the application of therapeutic measures for the cure of his mental malady, forms a most fascinating chapter in the history of scientific medicine.

In this era appear conspicuously the passing of mysticism and superstition, the abolition of the padded cell, the straight jacket, and other inhumane methods of restraint, the birth and progressive growth of knowledge relative to causes of abnormal mental functioning, and the development of psychiatry as one of the most important branches of the healing art. . . . Remarkable, however, as these advances have been, the problem of mental disease and mental defect remains as yet unsolved. A new era, however, has begun, the first pages of a new chapter are being written, and in the subsequent history of mental medicine *prevention* will stand forth as the keynote. For it has come to be generally recognized, with the continued increase in the number of individuals committed to mental hospitals each year, that the treatment and care of those adjudged insane and feebleminded is in itself insufficient, and if there is to be maintained throughout the generations to come a high type of civilization, and if the American people are to continue to hold the center of the world's stage, it becomes highly necessary that there be preserved the mental health of the individuals making up its citizenship.—Horace V. Pike, M.D., Danville, Pa.

Health the Greatest Asset.—Health is the greatest asset of an individual, community, county, or state. Disease is preventable in a great measure and controllable in most cases; but it requires money and the employment of skilled assistance; it requires public interest and coöperation. One person alone cannot transform a dirty and unkempt neighborhood into a clean and tidy one; but when the neighbors all pitch in and help, the job is easy and soon completed. Better public support should be given the State institutions caring for the public health, support commensurate with the value of their services. The State Department of Health, for example, returns to the community services that, reckoned only by their commercial value, are worth many times the capital invested. Health is the foundation stone of progress, and any country which neglects the health of its people must of necessity weaken, crumble, and give place to a more sturdy people. There was once a great Roman Empire—

Qualifications of Health Officers.—John W. Trask, Surgeon, U. S. Public Health Service, includes in his fundamental requirements for health administrators tact, statesmanship, organization ability, good personality, optimistic temperament, knowledge of epidemiology, stream pollution, medical inspection, housing, political science, local history, etc., but not once does he mention the work of the private practitioner. "It would seem that one of the most vital requisites of a good health commissioner would be an intimate knowledge of the problems of the medical profession, and ability to secure the coöperation of the physicians in any important program of public-health work. Public health is the child of scientific medicine and not the preceptor, as a few health officials seem to think. And, as one

highly qualified health commissioner recently said, 'When the child goes astray, it ought to be spanked.'"

Reduction of Infant Mortality.—A large measure of credit is given the nurses of the Division of Child Hygiene by the Department of Health for the marked reduction in infant mortality in Philadelphia. A mortality of 3,100 in 43,343 births last year is a gratifying decline from 5,232 in 1908, when the births were fewer.

INDUSTRIAL MEDICINE

The Chemist and His Contribution to Industrial Health.—This subject, the importance of which is being increasingly recognized, is discussed by J. B. Cunningham, Director Division of Industrial Hygiene, Ontario Dept. of Health, in the September number of the *Nation's Health*.

All industrial poisonings carry a chemical problem.

Industrial health is something to be attained—a positive thing requiring effort to stimulate the interest of workers and employers in the application of the principles of industrial medicine.

A death from accident in a plant is a spectacular thing, and would cost around $5,000 at least. Speedily something is done to avoid a recurrence, yet a worker partially disabled by disease placed at work just beyond his capacity will in a few years cost much more than this in lost time, ineffective work, the possible spread of disease, and increased liability to accident.

Information as to the prevalence of the more specific illnesses associated with industry—the strictly occupational diseases—comes from three main sources:

(1) A study of mortality.—Because most industrial poisons are administered in small doses over a long period of time, the effects are insidious and difficult to recognize. Evidently, mortality statistics of occupational diseases are of limited assistance, and when used must be supplemented by special knowledge and knowledge as to what trades expose workers to specific chemical or other hazards. The chemist is familiar with these, but he may not know their medical significance. This is one of the many points where coöperation between the chemist and the physician is desirable.

(2) The reporting of occupational diseases by practicing physicians.—Only five of our states have occupational-disease-reporting laws, and these laws are not often strictly enforced. Canada has none. The importance of such reporting is realized when it is remembered that for one fully established case of poisoning there will be other workers showing varying degrees of intoxication. They are either doing less than a man's job or working under a handicap which is certain to bring rapid breakdown.

(3) Direct investigation.—In the study of patients reporting to the Massachusetts General Hospital Industrial Clinic, it was found that 6 per cent of all outpatients were suffering from some type of occupational disturbance to health, the majority of them being cases of poisoning. A case of occupational disease is comparable in disability and cost only to the more serious accidents. In addition, the period of disability previous to complete breakdown is long and unproductive. Whether for purposes of diagnosis, prevention, or treatment, information as to the exposure to which the worker is subjected is obviously of the first importance. Frequently this is not easy to obtain. The average physician knows little or nothing of the details of industrial chemical reactions. Access through the chemist to information as to the substances to which his patient has been exposed would be invaluable in many cases of obscure illness. Of importance also is the extent of exposure. This involves the collection and estimation of fumes and dust by methods which are applicable for field use. On the biochemical side, it is important to know what new substances are formed when the poisons are received in the body and how, if at all, they may be detected.

The prevention of occupational poisoning concerns three groups: the employer, the chemist, and the physician—a triangle, with the employer as the base. With him lies the initiative, and he is not slow to act when he is taking losses which are unnecessary. The chemist has studied the hazardous substances in use, and his field experience is indispensable to intelligent investigation. The physician has appreciation of the meaning of symptoms and signs presented by workers in ill health, whether due to occupation or not. The correlation of these three groups, with the assistance an industrial-hygiene division can give, would go far in the reduction of disability among industrial workers.

Pneumoconiosis.—The Department of Labor of the State of New York recently has issued an interesting illustrated bulletin on pneumoconiosis and silicosis, calling the attention of physicians in the State to this important industrial hazard. The Department is especially interested in this subject, and concerned with the desirability of legislative relief for those persons who are exposed to dust containing silica. "It is hoped that this pamphlet will stimulate interest and discussion of the subject in order that the Department may benefit by current medical opinion."

Morbidity Records in Industry.—About ten years ago the U. S. Public Health Service began to make studies of industrial morbidity. In recent years, this work has been increased until at the present time they receive morbidity records of approximately 150,000 persons engaged in many types of industries. These records have not only been extremely valuable in giving some information as to the character and the amount of sickness in our industrial population, but it is also felt at the present time that they are beginning to point out the bad spots in industry, where a special effort may be made toward the reduction of avoidable sickness. In each instance where a report has been rendered to industry, the report has been received and given careful study by plant officials.

Health Supervision in Mercantile Life.—Two hundred and thirty-seven years were lost from illness by the 4,000 employes in one Boston store during the past two years. The common cold cost 18,420 days—62 years; nervous disorders cost 8,335 days—28 years; indigestion cost 7,985 days—27 years; miscellaneous illnesses cost 37,560 days—120 years.

These striking figures give us reason to pause and consider whether mercantile life is as sane and safe as would at first appear likely.

A few of the common sanitary defects found in a survey of 25 leading stores were as follows: Faulty seating was almost universal, resulting in much unnecessary fatigue.

A foot study of 97 women standing at their work showed 43 wore shoes that were too short, 19 wore shoes with heels injuriously high, and forty others wore shoes with heels sufficiently high to upset body balance. Fifty-nine pairs of shoes were so fitted as to cause foot distortion. Faulty posture caused some of the worst cases of foot strain. Proper shoes were fitted; and 75 per cent of the employes thus fitted wished to con-

tinue to wear the better-fitting shoes after six months' trial.

Eyestrain is quite common. At least two of every four persons have defective vision and need glasses, while less than one in every four have proper correction. Lighting of offices and workrooms is the second factor of eyestrain.

From the field of sanitation and plant or job hygiene, in which all agree the responsibility lies primarily with the management, we turn to the field of illness, injury, and personal fitness. The responsibility for lost time is here shared perhaps equally by the management and the individual worker. The waste from these causes is turnover and lost time from ill health and lack of vigor.

One hundred dollars a year is the estimated average loss from illness and injury of each mercantile worker. At a cost of five dollars a year per worker, satisfactory health supervision can be established, with a saving of a considerable proportion of the one hundred dollars which is now lost.

When care of the sick is well organized it is possible safely to employ workers who have defects more or less disabling. Physical examinations before employment will discover defects of heart, lungs, kidneys, or other organs. Persons with such defects may often be profitably employed if careful supervision is maintained.

Removal of Harmful Dusts, Gases, and Fumes.—John Roach, Deputy Commissioner of Labor for New Jersey, writing in the *Nation's Health* for September, calls attention to the fallacy of depending on "natural draft" ventilation for the removal of harmful dusts, gases, and fumes in industry.

As the varied character of chemical processing precludes the possibility of establishing definite mechanical rules for the construction and installation of exhaust systems, regulations must be written in language of a general character. Ventilation problems however no longer offer insuperable difficulties to the engineering world, but on the contrary, experts in this line are available whose experience justifies the principle that a clean breathing atmosphere may be provided for the workers in any of the industries that are carried on in this country.

Occupational Poisons and Susceptibility.—Many so-called industrial poisons are so only to certain persons peculiarly predisposed to their action. It is often a case of idiosyncrasy of the individual rather than that of a general toxic agent. Susceptible individuals must learn their limitations, and avoid exposure to certain agents.

Physicians in industry will learn through increasing experience the signs and symptoms of susceptibility in their workers, and in time will prevent much of this difficulty by proper selection and assignment of employees. Such selective placement will reduce the number of cases of disability from this cause, decrease lost working time, and lessen the number of cases applying for and receiving compensation.

It is estimated that from 6 to 20 per cent of all skin diseases seen in dispensaries is due to some irritative substance with which the individual came in contact during work. Surely such a condition merits close study by plant physicians with the object of preventing this needless waste by proper placement of workers.—Editorial—The *Nation's Health,* Sept., 1925.

Health Information.—The contagiousness of health information is of first importance. Next comes the virulence of the information. Does it strike home? This depends largely upon the susceptibility of the individual.

There is abundant proof that it is not sufficient to expose an individual to health information, no matter how sound or authoritative it may be, even if backed by the prestige of the United States Public Health Service. The facts may not be questioned, but commonly the adult reader easily persuades herself that they do not apply to her own case.

Health information, then, must appeal to some motive in each individual, and appeal so strongly that action is inevitable. The common motives are: fear of pain and desire to recover from disease, continuance or increase of the earning capacity, the vague and often weak desire to enjoy vigorous health.

The weakest point, perhaps, in health education is the lack of a simple, clear statement of what the individual is to do when a desire is aroused for action.

Our studies in stores have disclosed the common causes of disability and lost time. Back of the common cold, indigestion, nervous disorders, and many lesser ills lies the failure to maintain robust physical and mental health. Too many workers are content barely to escape sickness, that is, to remain in the border zone between health and illness.

To raise the general level of health capital and lay up a safe reserve against danger of infection and fatigue is the problem before mercantile hygiene.

Next to indifference, ignorance is our worst foe. The store of health information in the form of physical and mental hygiene is already large and is constantly increasing.

Health education, to be effective, must first arouse the interest and desire of the worker to become and keep fit. Next, it must supply sound, practical instructions in definite, simple terms. These instructions must be within the understanding and within the means of the individual.—Dr. Arthur B. Emmons, 2nd, *Labor and Industry,* June, 1925.

HOSPITAL ACTIVITIES

To many, the statement that the population of the country's hospitals, every day, represents that of a city the size of Detroit, and that the number of persons who annually pass through the doors of the hospitals of this country is equivalent to at least a dozen cities of this size, appears almost unbelievable.

The growth in the past half century in the number of hospitals conducted in the United States, and also in the number of beds maintained for the care of the sick, has been phenomenal. In the past fifty years the number of hospitals has increased from 149, with a bed capacity of 35,000, to over 7,000, with a bed capacity exceeding 800,000. Not only the service which this great number of hospitals renders annually to the public, but also the immense investment in lands, buildings, equipment, personnel, etc., demands every citizen's respect and financial support.

In Pennsylvania there are 377 hospitals, with a bed capacity of 59,500; in New Jersey there are 139 hospitals, with a bed capacity of 20,500, while in Delaware there are 14 hospitals, with a bed capacity of 1,263.

It is toward the medical profession that these institutions must look for their stimulus in maintaining a high standard of efficiency, as well as a sound ethical foundation in rendering this public service.

It is, therefore, with the idea that the readers of the ATLANTIC MEDICAL JOURNAL should know more about the great work which the hospitals in this district are

conducting that this column is established. Not only will current news, in so far as it affects the hospitals in the states mentioned above, find its way into this column, but there will be an endeavor to keep in some touch with the great hospital field as well.

The Hospital Association of Pennsylvania and the Philadelphia Hospital Association are jointly putting forth a strenuous effort to secure the 1926 meeting of the American Hospital Association for Philadelphia.

The question of whether or not the Pennsylvania counties should take advantage of recent legislation relative to the erection of local tuberculosis hospitals is arousing much discussion in a number of communities in the State. Recent action by the Montgomery County Tuberculosis Society to compel the county commissioners, through mandamus proceedings, to begin work on the hospital for the care of tuberculous patients in that county has brought this controversy to a head there. It is regrettable that the question of the construction of these local tuberculosis hospitals cannot be settled by the taxpayers of these communities without personal and political animosities being aroused.

Round-table conferences, as well as state papers on the construction and administration of hospitals, received prominent places in the program of the American College of Surgeons' Conference, which took place in Philadelphia, at the Bellevue-Stratford Hotel, October 26th-29th. Round-table conferences were conducted by Dr. Joseph C. Doane, of Philadelphia, and Dr. John D. Spelman, of New Orleans. Dr. Alfred Stengel, of Philadelphia, presided at an instructive symposium on the construction of hospitals, from the angle of the internist, laboratory, and other hospital-department heads. The survey made by the Committee to Confer with Morticians, of our State Medical Society, formed the nucleus for a symposium upon the procedure to be used for increasing autopsies.

FIGURING FOOD COSTS.—Food costs are an important item in the expense of operation of a hospital, and the constant efforts of administrators to improve the quality, methods of preparation, and service of meals make the budget for the dietary department constantly larger. A study of recent annual reports of 31 hospitals selected at random indicates the important place in the hospital budget which is occupied by the dietary department. This cursory study will be of special interest to administrators as a means of comparing the food costs of their institutions with those of hospitals of the same size, and of the same general type. "It is almost impossible to obtain comparative costs of much value in the hospital field, as there is no standard under which the figures are based. One person figures one way and the next another. When it comes to figuring food costs, one superintendent will figure only raw food, and the next will figure raw food plus help. A third will figure raw food plus help, lights, gas, etc. Another will omit special nourishments, and still another will put them in. So it goes throughout the hospital field. There is a wide variance in the development of figures in the maintenance of various departments. Some take into consideration the total amount invested, some consider the interest obligation, and so on."—*Hospital Management*, August, 1925.

FIRE HAZARDS OF X-RAY FILMS.—The report of the director of the x-ray department of the Presbyterian Hospital, New York, prepared by Dr. Ross Golden, visiting physician, contains the following interesting discussion of the hazards of films:

Ever since the adaptation of films to the roentgenographic work, a nitrocellulose base has been used in their manufacture. These films, when heated to a certain temperature, give off a gas which is very explosive. The fire hazard becomes so great that, in the opinion of the New York fire department, rather radical measures are necessary. The number of films actually in the department would have to be limited to a quantity below that required for the daily routine work, and fireproof, specially constructed vaults would have to be made, entirely separate from the hospital buildings.

The manufacturers put on the market a nonexplosive film which the Presbyterian Hospital began to use as soon as it was available. This film is made from an acetate base, and although it burns slowly—much less rapidly, in fact, than newspaper—it does not give off an explosive gas, and is considered safe in any quantity by the fire department. It is at present more expensive than the nitrate film, but is, nevertheless, the logical solution of the problem. The old films already on hand will be stored temporarily outside of the city until the new hospital building is occupied, when it probably will be possible to make them available daily.

It must be borne in mind that fire hazards in a hospital building should be reduced to an absolute minimum. In the proceedings of the National Fire Protection Association, 40 Central Street, Boston, Mass., there are suggestions and recommendations of value to Hospital administrators who are contemplating the erection of new buildings or alterations. There are special reports included relating to the storage of x-ray films. —*Hospital Management*, August, 1925.

Hospital Management for September contains an interesting editorial on the question of electing hospital superintendents at the annual meeting of the board of trustees. The question of the rapid turnover in hospital superintendents has received considerable notice during the past year. No successful business firm or corporation engages its manager for so short a period as one year, or allows him to be changed without very serious reasons therefor. Much of the inefficiency of the conduct of our hospitals must lie either in lack of care in selecting new superintendents, or else in allowing relatively trivial reasons to permit their removal at the end of a short period of service. We desire to call attention in this column to the fact that, in the long run, this procedure reacts unfavorably on the patient. A recent course for the instruction of hospital superintendents, begun as a result of the stimulus received by the American College of Surgeons and the American Hospital Association, will go far, we hope, toward remedying this defect.

We quote below a report of the Mary Immogene Basset Hospital, Cooperstown, N. Y.:

"Figures from the past three years' operation of this institution proved that the hospital could have been easily managed by graduate nurses at a saving of $5,000 per year, and dispensed with a training school." To be sure, the education of nurses is expensive. Education of any sort is usually a losing venture, and yet no one will dispute that one of the hospital's chief by-products is the instruction of the resident physicians and nurses. Let us urge that this instruction be made more efficient rather than that it be curtailed because it costs money.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

FEATURES OF THE NEW ANNUAL REGISTRATION LAW

1. Applies to all persons now qualified and engaged in the practice of medicine or any of the allied branches of the healing art or to all who are hereafter licensed.

2. All such must be registered with the Board of Medical Education and Licensure, the Department of Public Instruction, as practitioners, before the second day of January, 1926, and register thereafter annually.

3. Each yearly registration must be accompanied by a fee of $1.00.

4. Money thus received shall be available for the use of the Board of Medical Education and Licensure for the purpose of enforcing the law against unlicensed, illegal, and unregistered practitioners.

5. The Department of Public Instruction, acting for the Board of Medical Education and Licensure, shall issue a certificate of registration, said certificate with renewals being good and sufficient evidence of registration.

6. Any person who shall practice medicine or any of the allied branches of the healing art without having been registered shall, on conviction thereof before any magistrate, alderman, or justice of the peace in the county where the offense shall have been committed, be subject to a fine of $10 to $100; or in case of nonpayment of fine, undergo imprisonment in the county jail for a period not exceeding ten days; provided, that any person so convicted shall have the right to appeal as in any other case of summary conviction.

7. Similar registration acts are now in existence governing pharmacists, dentists, and a similar law governing osteopaths will become effective January 1, 1926.

8. Forms will be mailed by the Department about November 15th, in order that all physicians and practitioners of the healing art in the State may be registered in accordance with the Act of Assembly.

ANOTHER CONTRIBUTION

Ex-President J. Norman Henry, under date of October 15, contributed $100 to our Society's Benevolence Fund. It is significant that another president of the Society, upon retiring from office, indicates his knowledge of the needs of beneficiaries of the Benevolence Fund by adding noticeably to the slowly accumulating total.

THE TRUSTEES' LUNCHEON

On behalf of the State Society, the Board of Trustees entertained at luncheon on Tuesday, October 6, in honor of the delegates from other societies to our Seventy-fifth Annual Session. The invited guests included those who took part in the opening general meeting, and the Society's officers and ex-presidents.

In expressing his regret at not being able to be present, Dr. E. E. Montgomery, our oldest living ex-president, wrote as follows:

> It has been a source of great regret to me that a family reunion in Missouri on the 7th has prevented me from attending the meeting of the State Society this year. Please convey to the members my best wishes for a successful meeting, and the hope for the continued success and increased influence of the Society for the good of the profession and the inhabitants of the State.

Dr. Adolph Koenig, president in 1904, wrote as follows:

> I am just in receipt of the invitation from the Board of Trustees to participate in the luncheon at the Penn-Harris Hotel, Harrisburg, on October 6th. My head and heart long to be present, but my weary eyes make it inadvisable for me to engage in this historic festivity, in which I shall however participate in spirit. Best wishes for the welfare of the Society and all that it stands for.

Letters of regret were also received from Ex-Presidents Lewis H. Taylor, 1912, and Henry D. Jump, 1920.

REGISTRATION AT HARRISBURG

A study of the registration at our annual sessions always conveys interesting comparisons. The total registration of members at Harrisburg was 1,015, which compares most favorably with the registration of 682 at Harrisburg in 1919, and has been exceeded only at three meetings in the history of the Society, namely; in 1920, at Pittsburgh, 1,122; in 1921, at Philadelphia, 1,506; and in 1923, at Pittsburgh, 1,262. Registration at Reading in 1924 was 883, and at Scranton in 1922 was 917.

Invited guests, delegates from other societies, and hospital interns who registered, bring the total number of physicians registered as in attendance, to 1,054.

The registration of visiting ladies this year was 342, having been 344 at Reading, in 1924.

Our Society last met in Harrisburg in 1919. The Society's membership at that time was 6,710, the registration being 682, or 10% of the total membership. In 1925 the total membership was 7,370, the registration being 1,015, or 14% of the total membership.

The registration by sections was as follows: Medicine, 414; Surgery, 248; Specialties, 175; Pediatrics, 98; Dermatology, 38; Section not designated, 42.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since September 10th. Figures in first column indicate county society numbers; second column, State Society numbers:

Sept.	17	Bedford	17	7371	$5.00
		Lycoming	112-113	7372-7373 (½ yr.)	5.00
	22	Lancaster	129-131	7374-7376 (½ yr.)	7.50
		Venango	46	7377	5.00
		Montg.	152	7378 (½ yr.)	2.50
		Warren	49	7379	5.00
	28	Union	16	7380	5.00
		Alleg'ny	1262-1269	7381-7388	40.00
		Erie	140	7389	5.00
Oct.	12	Cum'land	35	7390	5.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to October 20th:

ADAMS: *Removal*—George A. Stock, from U. S. V. B. Hospital, Kentucky, to Outwood, Kentucky.

ALLEGHENY: *New Members*—Elvin J. Bateman, Magee Hospital; Frank T. Edwards, 4204 Murray Ave.; Harold G. Kuehner, 1432 Severn St.; R. Charles Nucci, Magee Hospital, Pittsburgh; Dante Pigossi, 432 Washington Ave., Bridgeville; Lada P. Losa, 233 E. Eighth Ave., Warren A. Wolf, 305 E. Eighth Ave., Homestead.

BEDFORD: *New Member*—Henry B. Strock, Bedford.

CAMBRIA: *Removal*—Josiah F. Buzzard, from Portage, to 723 Main St., Stroudsburg (Monroe Co.).

CLEARFIELD: *Death*—L. Cooper Harman, Philipsburg, recently, (Jefferson '82) aged 64.

CUMBERLAND: *Reinstated Member*—John W. Bowman, Lemoyne.

DAUPHIN: *Removal*—Edwin L. Royer, from Wiconisco, to Rebersburg (Center Co.).

ERIE: *New Member*—J. E. Fisher, 216 W. 24th St., Erie.

GREENE: *Removal*—Harry A. Vosburg, from Arnot to Deposit National Bank Bldg., Box 165, DuBois.

LACKAWANNA: *Death*—John L. Griffiths, Taylor, July 30th, aged 80, (Univ. of Vermont '84).

LANCASTER: *New Members*—George M. Hoover, 222 W. Orange St., Charles W. Ursprung, 407 W. James St., James M. Yeagley, 144 N. Prince St., Lancaster.

LEBANON: *Death*—Elias K. Boltz, Lebanon, August 28th, aged 54, (Jefferson '96).

LUZERNE: *New Members*—C. S. Mazales, 630 N. Main St., Duryea; A. W. Allen, National Bank Bldg., Hazleton; H. W. Dodson, 130 Prospect St., Nanticoke; Bernard Androsky, 201 Newrose Bldg., M. J. Murphy, 8 Center St., Pittston; A. W. Friedman, 141 S. Washington St., L. M. Jones, 150 S. Grant St., Wilkes-Barre. *Death*—N. Ray Myers, Wanamie, August 13th, aged 66, (Univ. of Pittsburgh '92).

LYCOMING: *New Members*—Albert C. Haas, Warrensville; William E. Delaney, Jr., Irvin Bldg., Williamsport; D. Hoster Swengel, Muncy. *Transfer*—Charles E. Bingaman, Palmerton, to Carbon County Society.

MCKEAN: *Deaths*—Smith G. Beatty, Kane, May 29th, aged 71, (Coll. of P. & S., Baltimore '82); A. Victor Ohlson, Kane, August 22d, aged 30 (Univ. of Penna. '22).

MONTGOMERY: *New Member*—W. Cole Davis, State Hospital, Norristown.

NORTHAMPTON: *Reinstated Member*—Stewart E. Rauch, Bethlehem.

NORTHUMBERLAND: *Removal*—Charles C. Cooner, from Kulpmont to Bedford (Bedford Co.).

PHILADELPHIA: *Removal*—Walter J. Freeman, Jr., from 1832 Spruce St., Philadelphia, to 3039 Q St., N. W., Washington, D. C. *Resignation*—Jay D. Linton, 130 Green Lane, Manayunk, Philadelphia. *Deaths*—J. Frederick Herbert, Sr., 1523 Locust St., aged 65, (Jefferson '83); John Cooke Hirst, 1823 Pine St., aged 50, (Univ. of Pa. '97); Louis Jurist, 1308 N. Broad St., aged 70, (Jefferson '80); John H. W. Rhein, 1732 Pine St., aged 56, (Univ. of Pa. '90); F. Beresford Crowe, 728 S. 60th St., aged 48, (Jefferson '02); Edward R. Stone, 1701 Master St., aged 74, (Jefferson '72).

SCHUYLKILL: *Removal*—John J. Sweeney, from Heckschersville, to Highland Park (Delaware Co.).

SUSQUEHANNA: *Removal*—Arthur J. Denman, from Susquehanna, to Box 49, Narberth (Montgomery Co.).

TIOGA: *Removal*—Harry A. Vosburg, from Arnot, to Deposit National Bank Bldg., Box 165, DuBois.

UNION: *Reinstated Member*—Edgar Shields, 3223 N. Second St., Harrisburg.

VENANGO: *Reinstated Member*—William R. Jobson, Oil City.

WARREN: *New Member*—Jacob F. Crane, Warren State Hospital, Warren.

WASHINGTON: *Deaths*—John N. Sprowls, Canonsburg, aged 73, Sept. 11th, (Jefferson '77); Henry L. Snodgrass, Buffalo, August 15th, aged 75, (Univ. of Mich. '76).

WAYNE: *Removal*—Harvey R. Bauman, from Hawley, to Champa, C. P. India.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK
Editor
Philadelphia, Pa.

REPORT OF THE FIRST ANNUAL MEETING

HARRISBURG, OCTOBER 5, 6, 7, 8, 1925

The first serious problem of the Woman's Auxiliary was faced Monday evening, when the Constitutional Committee, following a dinner given at the Penn-Harris by the State President, Mrs. William E. Parke, met and very thoroughly discussed the Constitution and By-Laws. Mrs. William Anderson, of Allegheny County, made the original draft, and deserves much credit, as very few changes were necessitated.

THE EXECUTIVE MEETING

The first Executive Meeting of the Woman's Auxiliary was held October 6th in the Senate Chamber of the Capitol. Having no precedent to follow, the President had sent letters to all counties, urging them to send delegates to this meeting, and all women who were interested, whether delegates or not, were invited to attend, with the result that while only sixteen counties were represented officially, there were about forty women present.

The President called the meeting to order at 10:45 a. m., and opened with a brief, direct message.

THE PRESIDENT'S ADDRESS

One year ago at Reading the House of Delegates of the Medical Society of the State of Pennsylvania approved of the organization of the Woman's Auxiliary, and this morning it is my privilege and pleasure as your Chairman to welcome you to the first meeting of the Auxiliary, which occurs at the time the State Society is celebrating its Diamond Jubilee.

Throughout the year your officers made diligent efforts to set before the county societies the aim and purpose of the organization and to stress the need. I feel greatly encouraged and much gratified to announce that thirty-one of the sixty-three counties of the State are definitely organized and are represented, I trust, by delegates to this meeting. Only three counties have replied that they have not felt the advisability of organizing just now.

We have been ably supported by the gentlemen of the State and various county societies, and it is my hope, in addition to enjoying the social side of the meeting and knowing each other as doctor's wives, that we may accomplish some definite work that may be outlined for us by the State and County Societies.

We have no report from the Secretary, therefore, I am very happy to introduce the Chairman of Organization, Mrs. Babcock, to whom we are indebted for the inauguration of this movement, and who has advised and helped me in all that I have undertaken.

REPORT OF CHAIRMAN OF ORGANIZATION

Last year when I addressed the various counties upon request, my speech was a very simple matter. I told in logical sequence of my discovery of the Auxiliary at the San Francisco Meeting in 1923, of my more intimate association with it in Chicago in 1924, and finally of my appeal to the House of Delegates of the Medical Society of the State of Pennsylvania at Reading. I was merely a messenger from the American Medical Association to the women of the East. That message has now been delivered, with a response greater than I ever dreamed of. With the organization so firmly placed in Pennsylvania I feel that my function as a Joan D'Arc ceases—that I must no longer be looked upon as a pathfinder for the Auxiliary in the East, not because my interest is any less, but because the vision is too great for any one person. It has become just as great as the number of counties organized and their needs.

In planning for the future work of the Auxiliary it must be remembered that this is a subsidiary organization and that no initiative must be taken until the Medical Society is consulted. Study your county medical society. Learn its needs, and assume such work as the gentlemen of the society feel would be helpful. There are a number of standing committees in every county medical society—housing, public health, finance, education, legislation, etc. Have a gentleman from each of these committees address your auxiliary upon the problems, needs, and accomplishments of the county medical society. Intelligent coöperation should be the result of these talks.

At a recent Philadelphia meeting, Dr. George Pfahler gave a talk on "The Work of Cancer

Control." He stated that here in Pennsylvania one in ten over twenty years of age died of cancer, and one in eight over forty. Applying these statistics personally, it means that in this room of 250 women, some thirty will die of cancer. When we realize that more people die of cancer than of typhoid, tuberculosis, and contagious diseases combined, we should appreciate in a measure the problems the medical profession is facing. Verily, the situation is worthy of our most serious consideration.

How, for example, can the Auxiliary be of definite use to the Committee on Cancer? By coöperating with them:

1st. In their attempt to educate the public, by having members of the Cancer-Control Committee to speak before lay organizations to which we belong—churches, clubs, parent-teacher associations, etc.

2nd. In urging every one we may know to apply immediately to their family physician upon the first symptom, and in cultivating among the poorer and possibly more ignorant class a confidence in public-health clinics and hospital dispensaries, for if taken in its incipent stage the death rate from cancer would be lowered by half.

3rd. In stimulating our own physician husbands to be ever watchful and awake to this insidious disease.

Ladies, could the State Auxiliary take up a more needed or serious line of work than to support the Cancer-Control Committee in every county? If the five thousand doctors' wives should concentrate on this object for the next ten years, surely statistics in Pennsylvania for cancer would be greatly improved.

Another object of the Woman's Auxiliary is to aid in securing better medical legislation. There seems to be a divided opinion among men as to just what is needed to secure this. After talking with various doctors throughout the State, I have learned that the medical profession is not opposed to the therapeutic measures used by the various cults but to their absolute lack of knowledge of the most elementary subjects upon which medical education is founded. It is not the treatment a man uses which is at fault—it is whether he has sufficient knowledge to know what he is treating that governs the situation. The apparent solution seems the One-Board Bill. By means of this law, every one practicing the healing art must pass before the same board, which will consist of men from all the various schools. Naturally, a man graduating from the oldest medical school in the country resents being examined by a board on which is an osteopath, a chiropractor, a naturopath, etc.; but turn the law the other way, the osteopath, chiropractor, naturopath, etc., must be examined by a board with well-educated men in the majority. It is time that all entrusted with the health and life of the sick were broadly trained to understand the nature of the disease they profess to treat.

How is the Auxiliary to aid in this matter? By quietly explaining the need of the One-Board Bill to your lay organizations and political clubs, by seeing the Senators and Representatives of your districts well in advance of the next meeting of the Legislature, so that two years hence they will know what their people and their physicians want in the way of medical legislation.

I have attempted to make clear only three reasons why this organization is in existence. From the county point of view, to do any supplemental work determined upon by the Medical Society. From the State point of view, to aid in the prevention of disease by concretely allying ourselves with the work of cancer control and in securing better medical legislation, and by advocating the One-Board Bill. Need any one ask in the future, "Why should I join the Auxiliary? What are *you* doing?"

As to what the Auxiliary has done in the past year, being ever honest, I must confess that we have accomplished very little other than to have made a start. Of the 63 counties in the State, 31 are organized, with a total state membership of about 500. The credit for this development is entirely due to your first president, Mrs. William E. Parke, who has traveled over the State and worked indefatigably in aiding the various counties to organize. It is an established fact that an organization accomplishes just as much work as its leaders hand out to it. This past year, although the three officers worked conscientiously, the Auxiliary was without leaders. But that condition no longer exists, for the delegates present this morning prove that our leaders have been found. Upon you the responsibility falls of making the Woman's Auxiliary worthy of its alliance with the Medical Society of the State of Pennsylvania.

The Auxiliary is one year old today. Your presence convinces me of the success of the movement. In starting the organization last year, my enthusiasm did not allow me to see any limitations. I faced the organizing of Pennsylvania with a faith in every individual doctor's wife—and my faith has been justified. In the future, may the Auxiliary retain faith in its members and trust that they will work sincerely and unselfishly, and its birthdays to come will bring increasing success.

COUNTIES PRESENT

The following counties were represented at this first executive meeting, and should always feel a degree of pride in knowing they were responsible for placing the State Auxiliary on a firm working basis:

Allegheny, Chester, Dauphin, Fayette, Greene, Lackawanna, Lancaster, Lebanon, Lehigh, Lycoming, Montgomery, Northampton, Northumberland, Philadelphia, Potter, Westmoreland.

DISCUSSION OF CONSTITUTION AND BY-LAWS

The Constitution and By-Laws were presented and carefully discussed, in order that every section of the State should understand the laws governing it. Section 3 of Article VI received most thorough consideration, as this would mean that the business of the Auxiliary was conducted by the House of Delegates rather than by the entire assembly. It seemed wise to adopt this method of government, as it is the same used by the men, and would leave the general meetings free for instructive or inspirational speeches.

The necessity of Article VIII dealing with the subject of dues was made clear to all delegates, as it was the unanimous desire to place the State organization upon a dignified financial basis. It was resolved to present this at the general meeting on Wednesday.

NOMINATING COMMITTEE

The president appointed the following nominating committee, with the suggestion that they meet immediately at the close of the meeting: Mrs. Babcock, of Philadelphia; Mrs. Morrow, Allegheny; Mrs. Kunkle, Lycoming; Mrs. Keylor, Lancaster; Mrs. George Miller, Montgomery.

The meeting adjourned at 11:45; most of the delegates hurrying to the Penn-Harris Ballroom to hear Dr. Shoemaker's presidential address.

THE WIMODAUSIS CLUB TEA

The Wimodausis Club of Harrisburg entertained the visiting ladies at the University Club for tea at 3:30. In the evening, the Dauphin County Auxiliary gave a musical at the Civic Club. Although artistic in quality, the talent was drawn entirely from doctors' families. At 10:30 Wednesday morning a tour of the Capitol was arranged. Following this, some one hundred machines had been corralled at the Capitol steps, to transport the ladies up the River Drive to the wonderful Harrisburg Country Club. Here the general meeting was held.

GENERAL MEETING

The first general meeting of the Woman's Auxiliary was called to order by Mrs. William E. Parke at 12 o'clock, October 7th, 1925, at the Harrisburg Country Club. The address of welcome was made by Mrs. Harvey Smith, President of the Dauphin County Auxiliary. The minutes of the executive meeting were read and letters of regret from Dr. J. Norman Henry and Dr. Ira G. Shoemaker, who had been invited to address the meeting. In their absence, Mrs. Babcock repeated the address she had given the previous day. She added that the members at large must be patient until their committees found definite concrete work for them, that it might be helpful to remember the line Milton wrote after he became blind: "They also serve who only stand and wait."

When the roll was called, twenty-one counties reported present, with a total attendance of 300. Mrs. Wilson, Chairman of the Legislative Committee, of Montgomery County, was called upon to make a report. She stated that upon invitation, seven women from the Montgomery County Auxiliary went to Harrisburg to support the One-Board Bill, although this constructive piece of legislation was not passed. The presence of these ladies without doubt, however, aided in the defeat of the Osteopathic Bill.

The Constitution was presented and adopted as follows:

CONSTITUTION

of

THE WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

ARTICLE I—NAME

The name of this organization shall be THE WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

ARTICLE II—OBJECT

The object of the auxiliary shall be to assist the Medical Society of the State of Pennsylvania in the advancement of the prevention of disease, to aid in securing better medical legislation, and to do such other supplemental work as shall be determined upon from time to time by the Medical Society.

ARTICLE III—MEMBERSHIP

The membership of the State Auxiliary shall be composed of the Woman's Auxiliaries to the County Medical Societies in the State of Pennsylvania.

ARTICLE IV—OFFICERS

SECTION 1.—The officers of the State Auxiliary shall be a President, three Vice-Presidents, a Recording Secretary, a Corresponding Secretary, a Treasurer, and six Directors. These officers, with the exception of the Directors and the Corresponding Secretary, shall be elected at the annual meeting to serve for one year or until their successors are elected. The corresponding secretary shall be appointed by the President. The Directors shall be elected for three years, two to be elected at each annual meeting. All the officers, except the Corresponding Secretary, shall be elected by ballot, unless there is only one candidate for an office, when by unanimous vote the ballot for that office may be dispensed with.

SECTION 2.—A Nominating Committee consisting of five members, no more than two of whom shall be members of the Executive Board, shall be appointed by the Executive Board at its regular meeting following each annual meeting. It shall be the duty of this Committee to nominate a candidate for each office to be filled at the next annual meeting. The Committee shall send a report of these nominations to the Secretary, who shall send a copy to each County Auxiliary at least sixty days before the election.

SECTION 3.—A vacancy occurring in an office shall be filled by the Executive Board for the unexpired term.

ARTICLE V—DUTIES OF OFFICERS

SECTION 1.—The duties of the President, Vice-Presidents, Recording and Corresponding Secretaries, Treasurer, and Directors shall be those which usually devolve upon such officers.

SECTION 2.—Should the amount of money received annually exceed $1,000 the Treasurer shall give bond of a surety company in a sum equal to that amount for the faithful performance of her duties.

ARTICLE VI—MEETINGS OF THE STATE AUXILIARY

SECTION 1.—A regular meeting of the State Auxiliary shall be held at the same time and place as that of the State Medical Society. A notice of this meeting shall be sent to all County Auxiliaries at least sixty days before the meeting.

SECTION 2.—Each County Auxiliary in good standing shall be entitled to be represented at meetings of the State Auxiliary as follows: Auxiliaries having twenty-five or fewer members shall be entitled to one delegate; Auxiliaries having more than twenty-five members shall be entitled to an additional delegate for each twenty-five members.

SECTION 3.—The meetings of the State Auxiliary shall be open to all members of the County Auxiliaries, but the privilege of making motions, debating, and voting shall be limited to the officers of the State Auxiliary, the delegates from the County Auxiliaries, and the chairmen of the standing and special committees authorized by this Constitution, or by the State Auxiliary, or by the Executive Board, and who have been instructed to report at the meeting. A voting member shall have but one vote although entitled to vote in several capacities.

SECTION 4.—A majority of the voting members registered as attending the meeting of the State Auxiliary shall constitute a quorum.

SECTION 5.—CREDENTIALS.—Each group of delegates shall present the receipts from the State Auxiliary for dues of its County Auxiliary with credential cards.

ARTICLE VII—EXECUTIVE BOARD

SECTION 1.—The officers of the State Auxiliary and the Chairman of the Standing Committee shall constitute the Executive Board.

SECTION 2.—The Executive Board shall have all power and authority over the affairs of the State Auxiliary during the interim between the meetings of the Auxiliary except that of modifying any action taken by the State Auxiliary.

SECTION 3.—Regular meetings of the Executive Board shall be held immediately before and after the annual meeting. Special meetings may be called by the President and shall be called upon the request of a majority of the members of the Board. The Board is authorized to transact business by mail if necessary.

SECTION 4.—Five members of the Board shall constitute a quorum.

ARTICLE VIII—DUES

Each County Auxiliary shall pay dues to the State Auxiliary at the rate of one dollar ($1.00) per capita, of which twenty-five cents (25c) shall go to the National Association. Bills for dues shall be sent by the Treasurer during March of each year to each County Auxiliary, and are payable on or before the next July first. A County Auxiliary in arrears for dues shall not be entitled to representation at a meeting of Delegates of the Auxiliary, and if its dues are not paid by the following March first, it shall be dropped from the membership of the State Auxiliary.

ARTICLE IX—STANDING COMMITTEES

Such Standing Committees shall be appointed annually by the Executive Board, as the State Auxiliary or the Executive Board may deem necessary to carry on the work of the State Auxiliary.

ARTICLE X—COUNTY AUXILIARIES

SECTION 1.—There shall be formed in each county in the State where possible a Woman's Auxiliary to the County Medical Society. Only one Auxiliary from any one County shall be recognized as a member of the State Auxiliary. Each County Auxiliary shall be a component part of the State Auxiliary.

SECTION 2.—The wives, mothers, daughters, and sisters of the members in good standing of a County Medical Society shall be eligible to membership in the County Auxiliary.

SECTION 3.—The eligible relatives of any physician living in a county where no Auxiliary exists may apply for membership in the nearest county having such an Auxiliary. Those eligible living near a county line who are more convenient to an Auxiliary in an adjacent county may apply for membership in such a County Auxiliary.

SECTION 4.—Each County Auxiliary shall have general direction of the affairs in its county and shall assist the officers of the State Auxiliary in any projects recommended by that organization.

SECTION 5.—The Secretary of each County Auxiliary shall keep a roll of membership and shall report to the Corresponding Secretary of the State Auxiliary the number of members and such other information as may be requested.

ARTICLE XI—PARLIAMENTARY AUTHORITY

The rules contained in Robert's Rules of Order Revised shall govern the State Auxiliary in all cases to which they are applicable and in which they are not inconsistent with this Constitution.

ARTICLE XII—AMENDMENTS TO CONSTITUTION

This Constitution may be amended at any regular meeting of the State Auxiliary by a two-thirds vote, provided a copy of the proposed amendment has been sent to each County Auxiliary at least sixty days before the meeting.

Mrs. Frederick L. Van Sickle of Dauphin County gave an informal Treasurer's Report, saying that $90 of the $210 paid into the National treasury at Atlantic City had been given by the Pennsylvania Auxiliary. Just pride may be felt over this statement. Letters to the number of 618, and 68 telegrams had been sent out by the President at an expense of $103.60.

The President called upon Mrs. Babcock for the report of the Nominating Committee. The following ticket was presented, and accepted unanimously:

President, Mrs. James I. Johnston, Allegheny; Vice-President, 1st, Mrs. Edward Lyon, Lycoming; 2nd, Mrs. Charles Smith, Fayette; 3rd, Mrs. Harvey F. Smith, Dauphin; Corresponding Secretary, by appointment; Recording Secretary, Mrs. Myer Solis-Cohen, Philadelphia; Treasurer, Mrs. F. R. Bausch, Lehigh; Direc-

tors, Mrs. Charles S. Rebuck, Dauphin; Mrs. William McCracken, Allegheny; Mrs. John M. Fisher, Philadelphia; Mrs. J. Newton Hunsberger, Montgomery; Mrs. Edgar S. Buyers, Montgomery; Mrs. Herman B. Allyn, Philadelphia. The nominations were closed and a unanimous vote was cast by the Secretary.

The meeting adjourned, the entire assembly moving to the lawn where a photograph was taken. A delightful buffet luncheon was served, after which many ladies motored up the Susquehanna Drive, and others remained on the porches, enjoying the view and the sunshine, discussing the future of the Pennsylvania Auxiliary.

EXECUTIVE MEETING

Mrs. James I. Johnston called the first meeting of the Executive Board to order at 3 o'clock in the spacious drawing room of the Country Club. The Secretary was requested to send a vote of thanks to Mrs. Harvey F. Smith and Mrs. John H. Fager, Jr., for their untiring efforts in entertaining the visiting ladies. Plans were made for the following year, and committees appointed which give promise that the Auxiliary will soon be functioning actively. Details of this meeting will appear in an early issue.

THE PRESIDENT'S RECEPTION

Wednesday evening the ball room of the Penn-Harris was crowded to its utmost capacity. It was considerably after midnight before the orchestra left and the lights were out. Even at this late hour groups lingered in the hotel corridors, proving that social contact, quite as much as professional inspiration, is to be gained at the State meetings.

THE CLOSING ENTERTAINMENT

The Dauphin County ladies extended their hospitality into Thursday by offering a trip to the Gettysburg Battlefield, where picnic lunches were served.

The Diamond Jubilee Meeting at Harrisburg was appreciated to its fullest extent and many thanks are extended by the Woman's Auxiliary of the State for being included in its generous program.

REGISTERED REPRESENTATIVES IN ATTENDANCE

Allegheny County—Mrs. C. J. Vaux, Mrs. Milton Goldsmith, Mrs. H. W. Morrow, Mrs. William McCracken, Miss Mary Isobel Vaux, Mrs. R. E. Davison, Mrs. J. I. Johnston.
Armstrong (not organized)—Mrs. C. M. McLaughlin.
Beaver (not organized)—Mrs. J. D. Stevenson.
Berks—Mrs. I. G. Shoemaker, Mrs. W. F. Krick, Mrs. C. D. Worley.
Bradford (not organized)—Mrs. P. N. Barker, Mrs. Philip Schwartz.
Butler—Mrs. W. R. Hockenberry.
Cambria—Mrs. J. W. Barr, Mrs. S. D. Boucher, Mrs. E. T. Ealy.
Cumberland (not organized)—Mrs. R. M. Shepler, Mrs. Ambrose Peffer, Mrs. P. W. Wagoner.
Carbon—Mrs. J. A. Trexler, Mrs. C. J. Kistler.
Chester—Mrs. A. W. Baugh, Mrs. T. K. G. Aiken, Mrs. J. T. Taylor, Mrs. C. S. Kurtz, Mrs. U. G. Gifford, Mrs. H. F. C. Heagey, Mrs. W. T. Sharpless.
Clearfield (not organized)—Mrs. I. S. Flegal.
Dauphin—Mrs. Harvey F. Smith, Mrs. A. H. Bucher, Mrs. J. L. Arnold, Mrs. C. I. Trullinger, Mrs. J. B. Hileman, Mrs. Gustave Dapp, Mrs. J. S. Arnold. Mrs. W. C. Baker.
Delaware—Mrs. W. W. Betts.
Fayette—Mrs. C. H. Smith, Mrs. H. A. Heise.
Greene—Mrs. R. E. Brock.
Huntingdon—Mrs. J. M. Beck, Mrs. H. C. Frontz.
Indiana—Mrs. A. D. Hotham.
Lackawanna—Mrs. F. J. Bishop, Mrs. P. J. Davies.
Lancaster—Mrs. J. E. Hostetter, Mrs. W. N. Keylor, Mrs. W. M. Workman, Miss Mary M. Kendig, Mrs. J. T. Herr, Mrs. T. E. Ingram, Mrs. C. R. Farmer.
Lebanon—Mrs. E. B. Marshall, Mrs. J. DeWitt Kerr, Mrs. J. C. Bucher.
Lehigh—Mrs. F. R. Bausch.
Luzerne (not organized)—Mrs. J. C. Kochcznyski, Mrs. W. F. Danzer.
Lycoming—Mrs. J. M. Corson, Mrs. G. W. Muffy, Mrs. W. F. Kunkle.
Mifflin—Mrs. R. T. Barnett, Mrs. C. J. Stambaugh.
Montgomery—Mrs. W. Z. Anders, Mrs. J. N. Hunsberger, Mrs. J. K. Wood, Mrs. G. W. Miller, Mrs. E. S. Buyers, Mrs. J. G. Wilson.
Montour—Mrs. Cameron Schultz.
Northampton (not organized)—Mrs. A. S. Fox, Mrs. J. A. Betts, Mrs. H. O. Rohrbach.
Northumberland—Mrs. George W. Reese.
Philadelphia—Mrs. W. E. Parke, Mrs. G. A. Knowles, Mrs. J. M. Fisher, Mrs. W. W. Babcock, Mrs. B. F. Kehler, Mrs. E. L. Vansant, Mrs. W. B. Scull, Mrs. A. C. Morgan, Mrs. Myer Solis-Cohen.
Somerset (not organized)—Mrs. G. C. Berkheimer.
Venango (not organized)—Mrs. C. Y. Detar, Mrs. Earl Magee.
Westmoreland—Mrs. Charles Ambrose.
Warren (not organized)—Mrs. Ralph Knapp, Miss Nellie Knapp.
York (not organized)—Mrs. G. E. Holtzapple.

CITY TUBERCULOSIS HOSPITAL.—The city of Pittsburgh maintains a tuberculosis sanatorium, under the direction of the Director of the City Department of Public Health, not as a charitable institution, although patients are not permitted to pay for care in the institution or for professional services rendered, but rather as a major item of preventive medicine. The hospital aims not only at the restoration to health of such individuals, but at their isolation until such time as they are no longer capable of transmitting the disease to others. Such segregation is the most important single factor in the fight against tuberculosis.

PROMPTNESS IN FIRST AID NECESSARY.—Although it is true that many trifling injuries do not cause a disability, it is true also that the neglect of such cases may be followed by serious infections. Infections practically may be eliminated by prompt first aid, preferably given by a physician, or in his absence by a nurse or trained attendant. Employees must be cautioned to report promptly after an injury, as the longer the delay, the greater the danger. In large plants, or where there are scattered units, it is not always feasible for the physician to see injuries early, and dependence must be placed upon conscientious trained attendants.

COUNTY MEDICAL SOCIETIES

REPORTERS OF COUNTY SOCIETIES

ADAMS—James P. Dalbey, M.D., Gettysburg.
ALLEGHENY—Lester Hollander, M.D., Pittsburgh.
ARMSTRONG—Jay B. F. Wyant, M.D., Kittanning.
BEAVER—Francis H. McCaskey, M.D., Rochester.
BEDFORD—N. A. Timmons, M.D., Bedford.
BERKS—Clara Shetter-Keiser, M.D., Reading.
BLAIR—James S. Taylor, M.D., Altoona.
BRADFORD—Stanley D. Conklin, M.D., Sayre.
BUCKS—Anthony F. Myers, M.D., Blooming Glen.
BUTLER—L. Leo Doane, M.D., Butler.
CAMBRIA—Horace B. Anderson, M.D., Johnstown.
CARBON—Jacob A. Trexler, M.D., Lehighton.
CENTER—James L. Seibert, M.D., Bellefonte.
CHESTER—I. A. Perkins, M.D., Coatesville.
CLARION—Hilton A. Wick, M.D., New Bethlehem.
CLEARFIELD—George D. Fussell, M.D., Clearfield.
CLINTON—R. B. Watson, M.D., Lock Haven.
COLUMBIA—C. B. Yost, M.D., Bloomsburg.
CRAWFORD—John W. Hazen, M.D., Meadville.
CUMBERLAND—Calvin R. Rickenbaugh, M.D., Carlisle.
DAUPHIN—W. Minster Kunkel, M.D., Harrisburg.
DELAWARE—George L. Armitage, M.D., Chester.
ELK—Perry O. Hall, M.D., Ridgway.
ERIE—Anna M. Schrade, M.D., Erie.
FAYETTE—Robert J. Billings, M.D., Uniontown.
FRANKLIN—Samuel D. Shull, M.D., Chambersburg.
GREENE—Robert W. Norris, M.D., Waynesburg.
HUNTINGDON—John M. Beck, M.D., Alexandria.
INDIANA—Charles E. Rink, M.D., Indiana.
JEFFERSON—W. A. Hill, M.D., Reynoldsville.
JUNIATA—Brady F. Long, M.D., Mifflin.
LACKAWANNA—G. A. Clark, M.D., Scranton.
LANCASTER—J. J. Sullivan, M.D., Lancaster.
LAWRENCE—William A. Womer, M.D., New Castle.
LEBANON—W. Horace Means, M.D., Lebanon.
LEHIGH—Maurice Kemp, M.D., Allentown.
LUZERNE—William J. Davis, M.D., Wilkes-Barre.
LYCOMING—Wesley F. Kunkle, M.D., Williamsport.
MCKEAN—Francis DeCaria, M.D., Bradford.
MERCER—M. Edith MacBride, M.D., Sharon.
MIFFLIN—F. A. Rupp, M.D., Lewistown.
MONROE—Walter L. Angle, M.D., Stroudsburg.
MONTGOMERY—John C. Simpson, M.D., Norristown.
MONTOUR—John H. Sandel, M.D., Danville.
NORTHAMPTON—Authur B. Hamilton, M.D., Bethlehem.
NORTHUMBERLAND—Charles H. Swenk, M.D., Sunbury.
PERRY—A. R. Johnson, M.D., New Bloomfield.
PHILADELPHIA—Franklin M. Crispin, Philadelphia.
POTTER—Ross H. Jones, M.D., Coudersport.
SCHUYLKILL—Arthur B. Fleming, M.D., Tamaqua.
SNYDER—John O. Wagner, M.D., Beaver Springs.
SOMERSET—H. Clay McKinley, M.D., Meyersdale.
SULLIVAN—P. G. Biddle, M.D., Dushore.
SUSQUEHANNA—Dever J. Peck, M.D., Susquehanna.
TIOGA—John H. Doane, M.D., Mansfield.
UNION—Oliver W. H. Glover, M.D., Laurelton.
VENANGO—John F. Davis, M.D., Oil City.
WARREN—M. V. Ball, M.D., Warren.
WASHINGTON—Charles C. Cracraft, M.D., Claysville.
WAYNE—Hugh Stevenson, III, M.D., Waymart.
WESTMORELAND—ELLSMER L. PIPER, M.D., Export.
WYOMING—Herbert L. McKown, M.D., Tunkhannock.
YORK—W. Newton Long, M.D., York.

NOVEMBER, 1925

COUNTY SOCIETY REPORTS

ALLEGHENY—OCTOBER

The regular monthly scientific meeting of the Allegheny County Medical Society was held on Tuesday evening, October 20, 1925, at which the following program was presented:

(1) A Case Report—Thoracoplasty—Presentation of Case. By Dr. I. H. Alexander. The discussion was opened by Dr. J. I. Johnston and closed by Dr. Alexander.

(2) The Present Conception of Acidosis. By Dr. C. W. W. Elkins. The paper stressed the following points: (a) The term *acidosis* is used in an unscientific manner today, conveying only a vague idea of what it actually represents. (b) It is accepted as meaning a decrease in the reserve alkali of the blood and tissues. (c) Its treatment should aim at the etiologic defect of infection rather than at treating the symptom complex of acidosis *per se*. Discussion by Dr. R. R Snowden, Dr. Elkins closing.

(3) Simplicity of Modern Dietetics. By Dr. Lawrence Litchfield. This timely subject appeared easy after the simple presentation. The lack of teaching of dietetics in modern medicine was deplored. The erroneous idea of diet as a panacea for disease was discredited. The use of carbohydrate, fat, protein, minerals, vitamins and water as the basic elements for modern dietetics was emphasized. Proprietary foods were advised against. The question of diet should be considered only after gaining knowledge of the patient's medical status, such as: overweight, underweight, constitutional diseases, and the like. The question of foods in disease depended on duration of illness; pneumonia and typhoid fever were used as illustrations. The writer recommended books by Chittenden, McCollum, Joslin, Sherman, and others to be read in association with this question.

(4) Lymphatic Leukemia. By Drs. George J. Busman and L. L. Schwartz. Lantern demonstration depicting the skin eruption, and sections illustrating the histopathology of this disease. The point stressed was, that leukemia cutis can exist without definite blood findings, and must not be overlooked in making a differential diagnosis of chronic pruritic erythodermias. The symptoms and differential diagnostic points were given by Dr. Wertheimer in the discussion.

(5) Management of Normal Labor. By Dr. Paul Titus. An exceptionally well-arranged series of lantern slides were used to demonstrate step by step the three stages of labor. Dr. Harold Miller opened and Dr. Titus closed the discussion.

Attention was called to the compulsory Registration Act recently passed and the salient points of the new law were read to the society.

L. G. BEINHAUER, M.D., Reporter.

BERKS—OCTOBER

The Berks County Medical Society at its October meeting was addressed by Dr. Drury Hinton on, "Fractures And Their Treatment." The subject was discussed by Drs. Kehl, Lebkicker, and Henderson. An abstract of Dr. Hinton's paper follows:

Our errors in diagnosis are underestimation of the importance of diagnosing fractures, such as fissures, greenstick, sprain, and crumpled fractures, and the oversight of impacted fractures and those associated with dislocations. Frequently a case of epiphyseal separation of the radius is diagnosed as a sprain, and a crumpled fracture without contusion as a contusion.

Fortunately, the x-ray is preventing many errors. This is one aid to routine diagnosis; also, there is mensuration and comparison. An x-ray examination is obligatory in all cases. The affected side and the other one should be carefully measured and compared. Undue traumatism should be avoided in the examination, as injury to the soft parts delays healing.

In simple fractures, reduction should be obtained under anesthesia sufficient to produce muscle relaxation and freedom from pain. In fractures of the shafts of long bones, this can be done under local anesthesia. In a general way, this anesthesia is given by means of a circular block well above the region involved, followed by paraneural or intraneural injection of a solution of one-half-of-one-per-cent novocain.

Where possible, reduction should be made under the fluoroscope, were the optimum of muscle balance is seen in which the particular fracture is to be maintained. This is most valuable in fractures of both bones of the forearm, upper end of the humerus, and of the shaft of the ulna with anterior dislocation of the head of the radius. In the upper extremity, proper function is the all-important consideration, while in the lower extremity, weight-bearing is to be first considered.

In regard to splints, for fracture of the humerus we prefer the shoulder cap and pad, or the jacket of plaster. Supracondylar fractures are dressed in the modified Jones position using plaster swathes. Compound fractures that need dressing are placed in the Murray modification of the Thomas splint where possible. Forearm fractures are applied in molded anterior and posterior splints. Fractures of the shaft of the ulna with anterior dislocation of the head of the radius are placed in the extended position in the Thomas arm splint. Fractures of the lower leg are dressed in external and internal molded plaster splints. In fractures of the neck of the femur, the Whitman abduction cast is used. In shaft fractures, choice lies between the Thomas splint and the plaster cast, employing, as a rule, skeletal traction in both by means of tongs or the Steinman pin.

CLARA SHETTER-KEISER, M.D., Reporter.

DAUPHIN—OCTOBER

Attorney John R. Geyer spoke before the Dauphin County Medical Society at the October meeting on "The Doctor in Court." An abstract follows:

The physician moves with the advance of science, while the lawyer is bound and fettered to the past, not only in laws and equity, but in his forms and ritual. The oath required of a witness, originally a sufficient guarantee of the witness' veracity, is still assumed to be proof of his honesty, although now the majority have no fear of immediate or ultimate punishment if they witness falsely.

The doctor in court steps out of his usual rôle of family adviser and court of final appeal in matters of health, and becomes on the witness stand merely a witness in the trial, subject to close and curious examination and frequently to ridicule. Acclimation to this transformation is the first thing for which he should strive.

The usual error that physicians are prone to make is the introduction of hearsay testimony, which is ordinarily not admissible. However, there are two exceptions: death-bed testimony, if proven that the subject was at the time in full realization of imminent death; and the history of the patient, if given, as evidenced by its character, for the sole purpose of securing a correct diagnosis and proper treatment.

Although more difficult than it is realized by the laity, the physician on the stand should testify in simple language. Frequently it is advisable to use medical terms first and then explain in the common usage.

Every licensed physician who has been in practice several years is legally an expert, and should not hesitate so to admit if questioned on that point.

In compensation cases a physician should take pains to describe in detail the character and amount of pain suffered by the plaintiff, as such testimony has considerable weight with the jury in awarding damages, and is unfortunately slighted by the testifying physician in his effort to describe the actual physical injury or disease.

Mr. Geyer's smooth and scholarly manner, as well as the timely and practical nature of his talk, was a treat to the large attendance that was fortunate enough to hear him.

W. M. KUNKEL, M.D., *Reporter.*

ERIE—OCTOBER

The Erie County Medical Society met October 6th at the Erie Public Library. The president, Dr. J. Burkett Howe, presided. Dr. A. J. Skeel, of Cleveland, spoke on the relation of safety and comfort in labor. It is now 78 years since Sir James Simpson of Scotland introduced obstetrical anesthesia—or as we now call it analgesia—in obstetrics. He first used ether but shortly gave it up for chloroform. Queen Victoria was one of the first to benefit by the use of anesthesia during her seventh labor in 1853.

DeLee as late as 1915 writes: "After much experience, the author has come to dispense with anesthetics in the first stage of labor. A cheerful, hopeful demeanor, sympathy and encouragement from the physician will usually help the woman to bear the pangs of labor until the second stage begins."

Williams in his 1912 edition writes concerning obstetric analgesia: "Of course it is contraindicated when the patient has religious scruples against its use. The choice of time for its administration is of great importance. It should not be used before the latter part of the second stage when the head becomes visible at the vulva, or at least until the perineum begins to bulge. A few drops of chloroform should then be placed on the inhaler with the beginning of the pain, and the patient should be instructed to breathe in the fumes vigorously. As soon as the contraction has ceased, the inhaler should be removed."

In 1913 and 1914, the work of Kromig and Grauss at Freiburg, published by lay magazines in America, marked the beginning of renewal of interest. From this date on, American obstetricians have given intensive study to the question of preventing, assuaging, and shortening the pain and suffering of labor.

Study, broadly, has been along two lines: (1) administration of drugs during labor; (2) shortening the duration of labor by operative interference.

Briefly, the situation today is this: Women are absolutely demanding relief from the pain of labor, and will have it. Our problem is how this may be accomplished with the greatest degree of safety.

A brief study of the medicinal methods advocated shows that the drugs used are, for the most part, old and well known—morphin, chloral, bromides, ether, chloroform, nitrous oxid, magnesium sulphate as a synergist—a new principle, scopolamin action—which is better known, and ethylene gas—which is still newer.

Recent studies have revolved largely about methods of administration rather than selection of drugs. There have been three periods to this work. In the first, or hypodermic, period (including twilight sleep and its various modifications) the dosage and repetition of morphin were much debated. Gradually, inhalations of an anesthetic were used to terminate the second stage. In the second period, hypodermic medication for the first

stage and inhalations of an anesthetic for the second were advocated. This was unsatisfactory because of incomplete relief during the first stage and too long an inhalation period; because the intermediate stage was not well covered and the method was difficult to carry out except in a hospital.

Gwathmey introduced the rectal method—the third period. When the patient is having pains every three or four minutes and there is dilatation the size of two fingers, the patient is given 1/4 or 1/6 grain of morphin, with 2 c.c. of a 50% solution of magnesium sulphate hypodermically. Thirty minutes later (a cleansing enema being previously given) she is given very slowly, by rectum, through a tube and funnel, 2½ ounces of ether with 1½ ounces of olive oil and 10 or 20 grains of quinin dissolved in 2½ drachms of alcohol. A little plain olive oil is injected first. Twenty to thirty minutes are taken to introduce this mixture into the rectum. The magnesium-sulphate mixture may be repeated at this time, always by hypodermic, of course. The magnesium sulphate given in this way prolongs the effect of the morphin but does not increase it; it increases the effect of the ether but does not prolong it. The magnesium-sulphate hypodermic may be repeated; also, in very long tedious cases, the ether-olive-oil-quinin mixture, but not more than ten grains of the quinin may be given for a repeat dose.

The morphin is not given to patients if they are able to deliver themselves within three hours, on account of the danger of an apneic baby. If the morphin is given too close to the delivery it is unsafe. Dr. Skeel says he gives only 1/6 grain of morphin and 1/150 grain of scopolamin with it. He dissolves the morphin in the magnesium-sulphate solution. Thirty minutes later, the mixture is injected into the rectum, and another hypodermic of magnesium sulphate is given. Inhalations of ether or nitrous oxid may be given for expulsive pains and repair work. The magnesium hypodermic is given deep in the gluteal muscles. The ether-and-oil mixture kills the colon bacillus.

Dr. Skeel is very enthusiastic about this method of obstetrical analgesia.

Anna M. Schrade, M.D., Reporter.

FAYETTE—OCTOBER

For more than a decade the Fayette County Medical Society has set aside one monthly meeting annually for clinical demonstration, and eminent men in their special spheres of professional activity are invited to speak.

The program is varied from year to year. Cases for demonstration are selected from the wards of the Uniontown Hospital where the clinics are held. It is the most practical and most largely attended meeting of the year. It makes membership in the county society worth while.

The clinic was the feature of the October meeting. More than 100 physicians were present during the afternoon. Dr. David Riesman of the Medical Staff, and Dr. George P. Muller of the Surgical Staff of the University Hospital, Philadelphia, were lecturers for the occasion. Dr. Riesman was never more skillful in his analysis of complex clinical pathology presented to him for bedside diagnosis. Dr. Muller left behind him a keen appreciation of his surgical acumen in the minds of all who heard him, by the practical way in which he clarified some rather difficult operative procedures.

The day will be remembered as one of the most profitable in a long list of days of rare privilege.

Harry J. Bell, M.D., Reporter.

LUZERNE—OCTOBER

The regular meeting of the Luzerne County Medical Society that was to be held on October 7th, was advanced one week and held on September 30th, on account of the State meeting to be held in Harrisburg.

There were 81 members and 7 visitors present—one of the largest meetings ever held. Those in attendance were well repaid, for the speaker of the evening was Dr. D. J. McCarthy of Philadelphia, who spoke on the subject, "The Prevention of Mental Diseases." Dr. McCarthy is well known to the Luzerne County members for the lucid and instructive way in which he presents the subject of his specialty. He chose especially the relation of the syphilitic to mental disease. He stated that insanity is not a disease in itself, but the manifestation of disordered function. Insanity should not be thought of only from the neck up, but the cause may be in any part of the body; viz., the viscera, teeth, tonsils, acute infections in adolescence, the generative organs as they relate to the sexual question, the period of adolescence, and the menopause.

Dr. McCarthy cited many cases to prove that with the removal of the toxin, or infection, the patients become normal again. The keynote to the prevention of mental disease lies in the treatment of the syphilitic. Syphilis is the direct cause of at least 10% of insanity. He stated that the arsenical preparations had been a failure in so far as the end results were concerned. Salvarsan, neosalvarsan, the Swift-Ellis method, and tryparsamid gave brilliant results at times, but they were not sure cures nor a guarantee that there will be no symptoms of tabes or psychosis in later years.

It is also possible that we as physicians may be led into a false sense of security, and neglect to give the patient all that there is to be had from some other medication. This does not mean that we should give up the use of the arsenicals, because they are of great value in the early cases, but that the old tried drugs of mercury and iodid should be employed also. Dr. McCarthy particularly stressed this form of treatment. His firm conviction is that mercury and iodid will prevent many cases of tabes and psychosis. He believes that there are more cases of tabes now than 25 years ago, and that every syphilitic should have mercury and iodid every spring and fall. To summarize, study the patient as a whole, remove all sources of infection, if possible, build up the resisting powers, and give mercury and iodid.

W. J. Davis, M.D., Reporter.

LYCOMING—JULY-AUGUST-SEPTEMBER

The Lycoming County Medical Society was favored with the presence of Dr. John A. Kolmer, of Philadelphia, at the July meeting. He delivered an interesting and instructive address on "Scarlet Fever, the Dick Test, Active Immunization, and the Serum Treatment." The sixty-five physicians present were well repaid for coming to the meeting. A complimentary dinner was given Dr. Kolmer in the evening at six-thirty at the Park Hotel.

The August meeting was the time of the annual outing, at which time Dr. John P. Harley, president of the Lycoming County Medical Society, was host to its members. Friday, August 14th, was the day, and the place was "Round Top." The outing was successful in every way and attended by 88 physicians. The dinner was a delicious one and much enjoyed. The special guests of the occasion were Drs. Edward Everett and Alem P. Hull, who are the oldest members of the So-

ciety. With an impressive and appropriate address, Dr. Harley presented each of these men with a beautiful autographed booklet, containing a biography, his picture, and a greeting from the members of the Society, signed by the officers and members. Drs. Everett and Hull both made fitting responses.

The Society has for two years been preparing a medical history edited by Dr. Charles J. Cummings and his associates. Dr. Cummings reported that the history was completed and would be distributed at once. In recognition of the valuable services of Dr. Cummings in carrying out the wishes of the Society, he was presented with a beautiful framed copy of resolutions adopted by the Society, expressing their gratitude for his untiring energy and self-sacrificing efforts. The resolution made him a life member of the Society and presented him with a leather-bound copy of the history. Dr. Cummings accepted the honor with sincere thanks and with marked emotion.

Secretary Brenholtz on behalf of the Society, with a few remarks presented Dr. J. P. Harley with a beautiful English traveling bag and a complete toilet set, in appreciation of his valuable work and efforts for the Society.

The September meeting was held at the City Hall, Friday, September 11th. Sixty-seven members were present. Dr. Mervine of Lock Haven, Dr. Donald Guthrie of Sayre, and Dr. Tomlinson of Milton, were visitors. William Eugene Delaney, Jr., of Williamsport, and Albert Carl Haas of Warrensville, were elected to membership. Dr. C. E. Bingaman, of Palmerton, was granted a transfer card to unite with the Carbon County Society.

The Society was favored with the presence of Dr. Joseph C. Bloodgood, Associate Professor of Clinical Surgery at Johns Hopkins University, who discussed "The Diagnosis of Breast Tumors," illustrated with slides. Drs. Donald Guthrie and A. F. Hardt participated in the discussion.

W. F. KUNKLE, M.D., Reporter.

NORTHWESTERN PENNSYLVANIA—SEPTEMBER

A joint meeting was held at Cambridge Springs, September 23d, which was attended by 140 physicians, representing seven counties of the northwestern part of the State.

Dr. Carl A. Hamann, of the Western Reserve University, gave a very instructive résumé of the diagnostic features of gastric and duodenal ulcer.

Dr. W. M. Robertson, of Warren, was elected president for the ensuing year.

On September 28th, the physicians of Warren and Erie Counties were entertained at the State Hospital for the Insane, and Dr. Mitchell and the members of his staff demonstrated in a clinical way some of the more common forms of mental aberration. Paresis, dementia præcox, alcoholic types of insanity, and traumatic psychoses were especially dwelt upon.

The attendance numbered fifty.

M. V. BALL, M.D., Reporter.

PHILADELPHIA

September 23, 1925

The president, Dr. Arthur C. Morgan, in the chair.

Dr. Joseph B. Wolffe: Cardiac Capacity Determined by Standardized Effort.—A method of ascertaining the efficiency of the heart muscle is one of the greatest and most practical problems facing the general practitioner as well as the cardiologist. Late decompensating hearts, needless to say, can be recognized very easily. It is the early diagnosis of myocardial insufficiency that is of great value, for it is only at that stage that proper management may allay and frequently prevent decompensation. It would be a great error to recommend any one single method of investigation upon which judgment may be based. Since the heart is really one of the most susceptible indices to health, and mirrors the state of many other organs, it would be amiss to dissociate the study of the cardiovascular mechanism from the rest of the body, and therefore, one must follow the accepted routine method of investigation in order to arrive at a fairly accurate diagnosis. Hence, a complete cardiovascular study should include a thorough history, physical examination, x-ray, electrocardiographic and polygraphic record, blood pressure, and last but by no means least, the cardiac response to exercise.

Because of the present widespread conception that the electrocardiograph is the most infallible guide to the diagnosis of heart conditions, it is well to emphasize the fact, for the benefit of those not acquainted with the instrument, that it serves only as an adjunct, and although most valuable in recognizing disturbances in conductivity, it cannot in any way replace the previously mentioned methods of investigation. It is an accepted fact that frequently advanced pancardial changes fail to show electrocardiographically any appreciable abnormality. Patients with quite damaged hearts will often present little upon the usual physical examination, while on the other hand, some with marked abnormal physical signs will clear up without any treatment, or after reaching their "three score and ten" die *with* it but not *of* it.

In the light of our present knowledge we fully realize that it is not the extent of an endocardial lesion, or the loudness of a murmur, or the type of arhythmia, that is the determining factor of the actual state of the heart, but the condition of the heart muscle, its ability to stand up under the load of the daily physical strain. In other words, it is the amount of retained cardiac reserve force. Undoubtedly after a great deal of experience and very careful thinking, Sir Thomas Lewis, one of our greatest investigators and ablest teachers, writes as follows: "Had systolic murmurs and modifications of the heart sounds never been discovered, the practice of medicine would have stood on a much higher plane than it does today." He regards the latter signs, and properly so, only as hints and guides to possible local mischief, but certainly does not attach the degree of importance that is apparently given them by a greater number of practitioners today. One is greatly impressed with the fact that even in the earlier works of Sir James Mackenzie, he constantly lays stress on the condition of the heart muscle and the amount of reserve force as a guide to prognosis. The relation between the cardiac force utilized during the hours of usual activity and the reserve force, which is called upon only when additional strain is applied, is an important one. It seems rational to think that any early cardiac pathology which is not compensated for will diminish proportionately the cardiac reserve force. Hence any simple and accurate method by which the latter could possibly be determined should prove of untold value.

Numerous tests have already been described by various investigators, many of which are practical within certain limitations. The hopping test, which is used a great deal, varies greatly with each individual, with his

mental attitude, and his coöperation. Many will not take it seriously, but consider it lightly and more or less as a joke; hence the coöperation is poor, and the importance and value of the test is greatly diminished. Furthermore, such a test is not applicable in all cases, e. g., a very stout individual would be at obvious disadvantages other than that which might justly be attributed to a myocardial condition. Running, swinging of dumb-bells, lifting of weights, moving stairways, ergostats, stationary bicycles, and other tests, are open to similar criticism. Still, these are valuable in ascertaining the cardiac reserve force, providing the same test is repeated and the progress observed.

It seems, apparently, that there is still room for a mechanism constructed for the purpose of subjecting a person to a predetermined amount of work, and means connected with the mechanism for recording the work done. In this way the person may be subjected to the same amount of work or more, if so desired, at different intervals of time. It is also important that the mechanism be reliable and simple enough to be within the reach of any practitioner. The instrument I am about to describe is a simple embodiment of the above-mentioned features. Belief in its reliability is based upon the numerous experimental data compiled by my associates and myself, as well as upon the fact that an apparatus of the same order has been and still is the most frequently used work-measuring device resorted to by engineers all over the world. (Slides illustrated the apparatus—a pulley on a shaft with fixed handles which are rotated against a pressure regulated by a thumb screw upon a spruce wood belt which surrounds the pulley as a brake. Since the size of the pulley, the pressure, and the number of revolutions are all known, 2 piR x number of revolutions x pounds pressure yields the foot pounds of work performed. Pulse reading and blood pressure are also taken.) With this instrument on hand, one can estimate the cardiac efficiency according to the method of either Graupner or Mendelssohn.

The Graupner method consists of taking the blood pressure before exercise and taking it again immediately after and at intervals until it returns to the preëxercise pressure. The Mendelssohn method, which we are using, consists of first taking the pulse while the patient is at rest. The patient is then subjected to a certain amount of work, individualized according to his age and physique. The pulse is again taken immediately afterwards and at one-minute intervals until the pulse returns to the preëxercise rate. After exercise, the pulse rate is found to be elevated in every case, and the better the myocardium, the sooner the pulse will return to normal. Deductions can be made from the test, as well as similarly applied at subsequent examination. Some of the more important clinical applications the above-mentioned instrument would have for every practitioner are: (1) This instrument would be a valuable adjunct in the diagnosis of myocardial degeneration. An individual with a poor myocardium will be able to do only a comparatively small amount of work before he develops the characteristic symptoms of dyspnea, palpitation, and precordial oppression. (2) By noting the amount of work required to produce these symptoms at the first examination, the amount of work done at subsequent examinations would determine the increase or decrease in myocardial power. The record is a valuable aid in determining the arrest or progress of the disease.

Conclusions: (1) The practical determination of the efficiency of the myocardium is of paramount importance to every practitioner. (2) The method of foot hopping, dumb-bell swinging, etc., has proved unsatisfactory, and the results often misleading. Moreover, none of these tests are applicable to all patients, nor is the information obtained conducive to the keeping of accurate records. (3) The use of an instrument, such as described above, fulfills the requirements of simplicity, in that it can be operated by a novice; and of practicality, in that the data obtained would be of inestimable value in determining the cardiac efficiency of the patient, and records could be kept of the first and subsequent examinations. (4) As the patient improves and is able to perform more work without the production of symptoms, we have an indication to show him that he is convalescing. The encouragement produced is really remarkable.

May I remind you that this paper, which I have respectfully submitted for your consideration, is a preliminary report and we are at this time still working on many phases of its application. We are especially endeavoring to standardize the functional response for various ages and occupational groups.

In Discussion, Dr. William Egbert Robertson said that this instrument measures power rather than work, but that this method bids fair to measure the function of heart muscle. The vital-capacity method takes cognizance also of respiration, and yields as good a conception of the myocardium as the work machine. The latter method is especially applicable in commercial spheres. He congratulated Dr. Wolffe on the standardization of heart capacity and muscle effort. It is a valuable adjunct—no one test is sufficient.

Dr. Stroud said that Sir Thomas Lewis feels that a systolic murmur, where there is no history of infection, no enlargement of the heart, no evidence of a curtailed efficiency, is not important, but with an enlargement, a history of chorea or rheumatism, other evidences of inefficiency are to be carefully attended. He challenged Dr. Wolffe's chart as a cardiac-function test, and would call it rather a circulatory-function test, since the reaction to effort determines the cardiovascular efficiency. Just as Richards has found resting capillaries in the kidney, so there may be such in the muscles, and if so, with a normal blood pressure and circulatory system, an individual would call less upon the myocardium, using instead these resting capillaries. To raise the blood pressure, the heart then would not have to increase the rate so much. Therefore, with so many peripheral factors entering into the circulation, this test can hardly be designated as a distinctly myocardial-efficiency test.

Dr. Behrend thinks the machine has a wide field of usefulness, especially in operative cases (e. g., old prostatectomies).

Dr. Wolffe, in closing, agreed that Dr. Stroud's term of "circulatory-function test" would be a better one.

Dr. Benjamin Lipshutz and Dr. Harry Lowenburg: Primary Peritonitis in Infancy and Childhood.—The paper is based on a study of twenty-two cases of primary peritonitis occurring in children and infants during the past three years. There is a high mortality (100% in their cases) and they are acutely fulminating —an acute inflammation without explanation as to cause. This condition constitutes 10% of the abdominal emergencies of childhood. Recognition of the malady must be placed on a firmer basis, differentiation of hemolytic-streptococcic from pneumococcic infections to be made only by the laboratory. The pneumococcic type is more common in females, the organisms penetrating to the peritoneum, either by the blood stream, lymphatics or genital tract. Streptococci are found more frequently in males.

The onset is abrupt, with rise of temperature. A history of cold or sore-throat three or four days previously may or may not be obtained. Propulsive, persistent vomiting is outstanding, and continues to the end. Diarrhea alternates with constipation. Abdominal rigidity is characteristic, its presence is necessary for diagnosis, and special technic must be developed for its detection in the crying child—if peritonitis is not present, the muscles will not rebound to pressure as the child stops its cry. There is nothing characteristic about the pain. Tenderness over the areas of rigidity is easily elicited. Tympanites occurs late. The facial expression is benign, and the child does not look ill. Leukocytes average 26,000 to 32,000. Peritoneal puncture confirms the diagnosis. It must be differentiated from appendicitis and thoracic disease. No treatment has proved of any avail, but early operation should be tried.

Dr. Behrend again cited a case described when this paper was previously read, of a child operated upon within the first six hours, with recovery. The finger-tip method of palpating the child's abdomen for rigidity is not new.

Dr. Robertson thinks that the symptom of rigidity is important, and believes that too firm a pressure may awaken a defensive reflex and interfere with diagnosis.

Dr. Lowenburg agrees with Dr. Behrend that early operation should be tried.

Dr. Warren S. Reese: How Much Eye Work Should I Do?—The alert physician, interested in this question, wants to know when to transfer the case to the ophthalmologist. A relatively large number of eye cases can be treated by the family physician if he knows how to diagnose dangerous signs. Various methods of examination are helpful: testing the vision, testing ocular tension, ciliary tenderness, eversion of the lids to look for trachoma, vernal conjunctivitis or foreign body, oblique illumination for foreign bodies, pressure on the lacrimal sac to eliminate dacryocystitis, and the history of ocular headaches (frontal if refractive error, occipital in motor disorders). A cycloplegic is necessary for refraction. Squint should always be treated early to preserve binocular vision. There are a few ocular infections that are bugbears: glaucoma cases, which, in the chronic types with fields reduced to ten or fifteen degrees, are invariably treated by the optometrist by repeated presbyopic refraction; iritis, where there is lacrimation without discharge, photophobia, pain in the eyeball, ciliary tenderness, and discoloration of the iris; corneal ulcer, which, if occurring during a conjunctivitis, should be sent to the ophthalmologist; industrial accidents, which frequently become court cases; burns, which require a guarded prognosis; and wounds of the lids, edges of which must be most carefully coapted. Atropin should not be used by the general practitioner, homatropin is better. Atropin in glaucoma may become uncontrollable, while homatropin can be neutralized by eserin. Argyrol should not be used over a long period, and silver nitrate not more than once a day, and then followed by a boric-acid flush.

Dr. William Zentmayer said that the work to be done by the general practitioner should depend upon his knowledge and experience; if no postgraduate work has been done he should do no eye work. The lacrimal sac should always be tested after a corneal foreign body where the wound has been infected. Children with squint should be treated early—between eighteen months and two years. Atresia of the lacrimal nasal duct can be cured with the probe. The relation of the severity of headache to the error of refraction is different in different individuals. Cocain is not safe; holocain is safe, antiseptic, anesthetic, and does not decompose or change. The general practitioner should know what the ophthalmoscopic examination reveals; it is a study of living vascular pathology, and shows many manifestations of general disease. Homatropin is the mydriatic of choice for the general practitioner.

MARY A. HIPPLE, M.D., Reporter.

PENNSYLVANIA NEWS ITEMS

DEATHS

L. COOPER HARMAN, M.D., Philipsburg; Jefferson Medical College of Philadelphia, 1882; aged 64; recently.

ROBERT B. WATSON, M.D., Lock Haven; University of Pennsylvania School of Medicine, Philadelphia, 1863; aged 87; October 9th.

JOHN K. CRAWFORD, M.D., Cooperstown; University of Pennsylvania School of Medicine, Philadelphia, 1868; aged 83; in September.

JOSEPH W. STRONG, M.D., Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1879; Civil War veteran; aged 84; October 8th.

GEORGE M. HARRISON, M.D., Meshoppen; University of Michigan Medical School, Ann Arbor, 1875; aged 74; September 28th, of heart disease.

WALTER WEBB, M.D., West Chester; Jefferson Medical College of Philadelphia, 1888; aged 60; recently, while on a vacation tour in New England.

LOUIS JURIST, M.D., Philadelphia; Jefferson Medical College of Philadelphia, 1880; president of the Northern Medical Association; aged 70; October 9th, of heart disease.

WILLIAM P. CRANE, M.D., son of Dr. William H. Crane, Philadelphia; University of Pennsylvania School of Medicine, 1925; was to have interned at the Misericordia Hospital; aged 25; recently.

JOHN BRICE CRESSINGER, M.D., Sunbury; University of Pennsylvania School of Medicine, Philadelphia, 1896; health officer of Sunbury; on the staff of the Mary M. Packer Hospital; aged 53; September 16th.

HENRY D. GOLD, M.D., Frazer (a patient for nine months in the Pennsylvania Hospital for Mental and Nervous Diseases); Temple University Department of Medicine, Philadelphia, 1905; committed suicide September 28th.

J. FREDERICK HERBERT, M.D., Philadelphia; Jefferson Medical College of Philadelphia, 1883; ophthalmologist at the Abington Memorial Hospital; father of J. Frederick Herbert, Jr., with whom he had offices; aged 65; October 12th.

J. REX HOBENSACK, M.D., Philadelphia; University of Pennsylvania School of Medicine, Philadelphia, 1893; member of staff of Lankenau Hospital; demonstrator of anatomy at the University of Pennsylvania School of Medicine; aged 55; October 8th.

JOHN C. BULLITT, JR., M.D., Wayne; University of Pennsylvania School of Medicine, Philadelphia; son of the framer of the charter under which Philadelphia was governed for many years; aged 53; recently, at his summer home at Vineland Haven, Mass., of heart disease.

TIMOTHY J. BOWES, M.D., Philadelphia; Jefferson Medical College of Philadelphia, 1891; born in Bordeaux, France, in 1859; great-grandson of General Montcalm of French-Indian War fame; physician for the White Star Line in the trans-Atlantic service for ten years; medical director of the Philadelphia Electric Company for 18 years; October 2d.

JOHN H. W. RHEIN, M.D., Philadelphia; University of Pennsylvania School of Medicine, 1890; specialist in

mental and nervous diseases; former professor of mental and nervous diseases in the Graduate School of the University of Pennsylvania; commissioned a Major in the Medical Corps in 1917; visited all the American base hospitals during the World War; held many positions as neurologist and psychoneurologist to hospitals in Philadelphia throughout his lifetime; aged 56; October 14th.

John Cooke Hirst, M.D., Philadelphia; University of Pennsylvania School of Medicine, 1897; senior gynecologist and obstetrician to the Philadelphia General Hospital; obstetrician to St. Agnes' Hospital; a member of the obstetrical staff of the University Hospital; gynecologist to Mount Sinai Hospital; assistant professor of gynecology at the Graduate School of Medicine of the University of Pennsylvania, and assistant professor of obstetrics at the University of Pennsylvania School of medicine; author of a number of textbooks on obstetrics and gynecology, and the contributor of more than two hundred articles on these subects to magazines; for twenty years quiz master in obstetrics and gynecology at the University of Pennsylvania, examiner for the National Board of Medical Examiners, and bedside examiner for the Pennsylvania Board of Medicine; aged 50; October 4th.

Births

To Dr. and Mrs. Don D. Brooks, of Connellsville, a son.

To Dr. and Mrs. Harry G. Shaffer, of Grampian, a daughter.

To Dr. and Mrs. William E. Reiley, of Clearfield, a daughter.

To Dr. and Mrs. Peter McCall Keating, of Swarthmore, a daughter, September 23d.

Marriages

Miss Helen Wehner, daughter of Dr. and Mrs. William H. E. Wehner, of Philadelphia and Mr. Joseph S. Perot, of Philadelphia, October 21st.

Dr. George A. Richardson, of Philadelphia and Dover, N. C., and Miss Kathryn Embery, daughter of Dr. and Mrs. Frank Embery, of Philadelphia, October 7th.

Miss Janette Williams Lord, daughter of Dr. and Mrs. J. Williams Lord, of Baltimore, and Mr. William Ashton Tucker, son of Dr. and Mrs. Henry Tucker, of Philadelphia, November 12th.

Items

Miss Mary Kurchinsky has resigned as superintendent of the Lewistown Hospital, Lewistown.

Dr. John W. Elliott, of Sharon, was operated upon at the Buhl Hospital, Sharon, October 8th.

Dr. W. C. Hollopeter, of Philadelphia, has returned from Europe, where he spent some time in England.

Dr. Arthur P. Keegan has been appointed coroner's physician of Philadelphia County to succeed Dr. R. D. Burke.

Dr. and Mrs. Alden O. Davis, of Pittsburgh, sailed October 10th with the Raymond Whitcomb Company cruise around the world.

Dr. Thomas B. Echard, of Connellsville, has gone to St. Petersburg, Florida, where he expects to locate in the near future.

A Child-Conservation League was organized recently in Conshohocken by a number of women of that town. Meetings will be held semi-monthly.

About twenty cases of typhoid fever were recently reported in or near the city of York; eight new cases were reported September 12th.

Dr. and Mrs. Edwin E. Graham, of Philadelphia, have announced the engagement of their daughter, Gertrude Ann, and Mr. Henry Burnett Robb, Jr., of the same city.

Miss Violet Yingst, a graduate of the Homeopathic Hospital, Reading, has been appointed superintendent of that institution, succeeding Anna K. Essig, who recently resigned.

Dr. John D. Donnelly, of Harrisburg, a member of the administrative staff of the State Department of Health, has resigned to engage in private practice in Philadelphia.

Dr. and Mrs. Carl Williams, of Germantown, have announced the engagement of their daughter, Miss Jane Ledgwick Williams, to Mr. H. LeBarre Williams, Jr., also of Germantown.

Dr. and Mrs. Henry Tucker, of Philadelphia and Bellevue, Maryland, recently announced the engagement of their daughter, Elizabeth Russell Evans, and Mr. George A. Armistead, of Chestnut Hill.

Dr. Charles B. Penrose, who died last February in Philadelphia, has left an estate valued at $3,816,-234.15. Dr. Penrose was a brother of the late United States Senator Boies Penrose.

Dr. David P. McCune has been elected president of the McKeesport Academy of Medicine for the ensuing year, Dr. Joseph B. Feeley vice-president, and Dr. John C. Kerr secretary.

Dr. Clark D. Stull, of Ridley Park, has been appointed surgeon to the Westinghouse Electric and Manufacturing Company to fill the vacancy caused by the death of Dr. Norman D. Smith.

Dr. John W. Leckie, of Hazleton, has been appointed medical director of the new $450,000 West Mountain Sanatorium at Scranton, which was opened recently. Dr. Leckie assumed his new duties October 1st.

Dr. Judson Daland, professor of medicine at the Graduate Medical School of the University of Pennsylvania, Philadelphia, is in the University Hospital, recovering from an operation for gastric ulcer.

Dr. Lewis H. Adler, Jr., Philadelphia, is sole heir and executor of the estate of his brother, Francis C. Adler, an attorney, who committed suicide last year. The value of the estate is set at $288,008.41.

Dr. Elmer H. Bausch and one-year-old son, James, of Allentown, are slowly recovering from injuries received when their home was demolished by an explosion of illuminating gas, killing Mrs. Bausch and their four-year-old son, Elmer, Jr.

Dr. W. Warren Funk, of Philadelphia, who contracted blood poisining in his left forefinger during an operation on June 13th, is reported in a much improved condition. He had cut his finger with the tip of a pair of scissors while operating on the infected wound of an aged woman.

Dr. Albert L. Ussett, of Chester, has successfully passed the examination of the American Board of Otolaryngology. Dr. Ussett is now taking postgraduate work in otolaryngology at the University of Pennsylvania, and has completed one year of the two-year course.

Three years will be the minimum course in pharmacy hereafter at the Philadelphia College of Pharmacy, which recently began its 105th year. This minimum requirement now has been adopted by all the institutions which belong to the American Association of Pharmaceutical Colleges.

Dr. Francis C. Grant, associate in surgery in the School of Medicine, and instructor in surgery in the Graduate School of Medicine of the University of Pennsylvania, has been granted a leave of absence

until June to carry on special work in the Brighton Hospital, Boston, Mass.

DR. WILLIAM F. MORRISON, of Philadelphia, was rescued by firemen recently when fire was discovered on the first floor of the Aesculapian Club of Philadelphia, a physicians' organization. Dr. Morrison lives at the Club and was awakened by the heavy smoke which swept through the place.

THE NEW Lewes Mason Memorial Building of the Chester County Hospital was opened to inspection by the public on September 19th. The building is the gift of Pierre DuPont of Wilmington and Longwood, Del., and is dedicated to the memory of Lewes Mason, a ward of Mr. DuPont, who died during the pandemic of influenza.

DR. HELEN INGLEBY, a graduate of the London School of Medicine for Women, arrived in this country from London in September to take up her duties as professor of pathology at the Woman's Medical College of Pennsylvania, Philadelphia, succeeding Dr. Maude Abbott, who has returned to McGill University in Montreal.

DR. WILLIAM PEPPER, dean of the School of Medicine at the University of Pennsylvania, has been granted a leave of absence until Christmas, and on October 15th sailed for Europe with Mrs. Pepper. The trip primarily will be a vacation, but Dr. Pepper will inspect a number of foreign medical schools while abroad.

MISS LOUISA T. PFAFF, of Philadelphia, who died on September 26th, left a $60,000 estate. Her will contains bequests of $5,000 to the Home for Consumptives, Chestnut Hill, for a free bed; $2,000 to the Pennsylvania Institution for the Instruction of the Blind; and $1,000 each to the Chapin Home for the Aged Blind and the West Philadelphia Homeopathic Hospital.

DR. DUNCAN D. DESPARD, surgeon and nerve specialist of Philadelphia, who was shot by an insane patient in August, 1924, left an estate of more than $500,000. He left all of his property to his ninety-year-old invalid mother, except some small bequests. These included $30,200 to friends and relatives, and $5,000 to Jefferson Hospital to establish a bed in his mother's memory.

THE TWENTY-SEVENTH ANNIVERSARY of the Philadelphia Association of Retail Druggists was celebrated in conjunction with a testimonial dinner in honor of Mr. Ambrose Hunsberger, Assistant Federal Prohibition Administrator for Pennsylvania, at McCallister's Hall, Philadelphia, Tuesday evening, November 10th. The celebration consisted of a dinner, entertainment, and dance.

DR. ARLINE M. BEAL, a graduate of the Woman's Medical College of Pennsylvania, class of 1924, sailed for India October 17th, with the intention of devoting her life to the spreading of the knowledge of medicine among the natives of that land. Dr. Beal, who is 25, will take up the work left by Dr. Anna S. Kugler, also a graduate of the Philadelphia institution, who returned to this country to find a successor in the work that she had carried on for forty-three years.

A JOINT MEETING of the Academy of Stomatology and the Eastern Society of Anesthetists was held on Tuesday, October 27th, at the Adelphia Hotel, Philadelphia. Clinics were given from 10 to 12 a.m. at the Pennsylvania Hospital by E. I. McKesson, M.D., Toledo, Ohio, and J. R. Cameron, D.D.S., Philadelphia; at Evans Institute by John Gunther, D.D.S., L. B. Duffeld, D.D.S., and G. C. Davis, D.D.S., all of Philadelphia. Papers on anesthesia were read in the afternoon and evening.

AT THE ANNUAL Founders' Day exercises of Lafayette College, Easton, October 21st, the honorary degree of Doctor of Laws was conferred on Dr. George H. Meeker, dean of the Graduate School of Medicine at the University of Pennsylvania. Dr. Meeker is a graduate of Lafayette College, class of 1893. Dr. Josiah H. Penniman, at an alumni banquet held last winter in Easton, said that Dr. Meeker had brought the Graduate School of Medicine at the University of Pennsylvania up to the highest standard in America.

PRECEDING THE ANNUAL CONVENTION of the American Hospital Association, which began its five-day session October 19th, there was a meeting of the Protestant Hospital Association in Louisville, Ky. Addresses were made by four Philadelphians as follows: Daniel D. Test, superintendent of the Pennsylvania Hospital; Dr. Joseph C. Doane, medical director and superintendent of the Philadelphia General Hospital; John Smith, superintendent of Hahnemann Hospital, and Charles Pitcher, superintendent of the Presbyterian Hospital.

THE FOLLOWING PHYSICIANS have recently been added to the consultant staff of the Diagnostic Hospital, 1731 Vine St., Philadelphia: Drs. Curtis C. Eves—ear, nose and throat; Joseph V. Klauder—dermatology; Daniel J. McCarthy—neurology; Francis Packard—ear, nose and throat; P. S. Pelouze—urology; William C. Posey—ophthalmology; Joseph Sailer—medicine; C. E. DeM. Sajous—endocrinology; Louis T. DeM. Sajous—endocrinology; S. Calvin Smith—cardiology.

This hospital is intended to serve the family physician who has not the diagnostic resources of a fully equipped hospital at his command, and who meets in his practice cases difficult to diagnose, necessitating the study by specialists and various x-ray and laboratory examinations. The fees are regulated to suit the individual patient, and the family doctor's suggestion on this score is considered. The hospital is partly supported by an endowment fund and by the Welfare Federation, and the staff serves without compensation, the fees for diagnostic services being used to buy diagnostic equipment for the hospital.

THROUGH A SOMEWHAT UNIQUE OFFER of the Green Street Monthly Meeting of Friends of Philadelphia, any person or persons, regardless of race or creed, who desire to be cremated in lieu of the usual burial service and interment, may have the expenses of the cremation paid.

This offer was decided upon by the trustees of a fund of the Friends' Meeting, established by a member, Anna J. Jeanes. The trust fund originally was $20,000, and was established to defray the expense of those desiring to be buried in the Fairhill Cemetery. However, due to the fact that the cemetery has limited space for burial at the present time, and is gradually being engulfed in the residential district, added to the fact that the interest from the fund was not sufficient for its designated purpose, the trustees determined upon some other use for it.

DR. BERTRAND J. ALPERS, of the Philadelphia Orthopedic Hospital staff, has been awarded one of five fellowships in neuropsychiatry recently granted to the Graduate School of Medicine at the University of Pennsylvania by the Commonwealth Fund of New York City. Granting of the fellowships was made possible by a $36,000 contribution by the fund.

The terms under which the fellowships are granted provide that the fellows shall be candidates for the degree of doctor of medical science, for graduate work in neuropsychiatry, the degrees to be conferrable in February. The fellowships are administered by a joint committee composed of Dr. George H. Meeker, dean of the Graduate School of Medicine; Dr. T. H. Weisenburg and Dr. Earl D. Bond, of the Penn faculty; Miss Mildred E. Scoville, of the Commonwealth Fund; Dr. Frankwood E. Williams, medical director of the National Committee for Mental Hygiene, and Dr. Ralph P. Truitt, director of the

Division on Prevention of Delinquency of the National Committee for Mental Hygiene.

GENERAL NEWS ITEMS

THE THIRTY-SIXTH ANNUAL MEETING of the Association of American Medical Colleges was held in Charleston, S. C., October 26th-28th.

THE ROYAL SPANISH ACADEMY OF MEDICINE recently conferred a degree on Dr. C. H. Mayo, of Rochester, Minn., at a meeting in Madrid.

SIR ALFRED FRIPP, surgeon to King George of England, has recently opened sun baths at the Theater Royal in London, the first theater in the world to take up the baths.

THE FIFTH ANNUAL MEETING of the American Association of Oral and Plastic Surgeons was held in Philadelphia at the Bellevue-Stratford Hotel, October 26th and 27th, coincident with the meeting of the American College of Surgeons.

SIR WILLIAM ARBUTHNOT LANE, noted British surgeon, sailed on October 14th, on the liner Majestic to attend the Congress of the College of Surgeons in Philadelphia. Lord Dawson of Penn, physician to the King, also attended the conference.

DR. DEAN LEWIS, Chicago, has accepted an offer from Johns Hopkins University to become chief of the surgical department. Dr. Lewis resigned from Rush Medical College a short time ago to accept a similar position at Northwestern University.

MRS. HARVEY J. HOWARD, whose husband, eye specialist of the Peking Union Medical College, was captured by Manchurian bandits on the Sungari River July 30th, received a telegram from Dr. Howard on September 26th saying that he had been rescued. He also informed his wife that he was emaciated from his nine weeks' captivity, but otherwise was well.

THE MEDICAL ASSOCIATION OF GEORGIA at its recent annual session pledged its aid in an effort to have repealed or modified the present law requiring physicians to purchase a narcotic license, the proceeds of such license fees going to the providing of revenue for the revenue department.

AT THE ANNUAL SESSION of the Indiana State Medical Association, held at Marion, September 23-25, 1925, the following addresses were delivered at the public meeting: "Anesthesia," by Dr. Wm. S. Newcomet, Philadelphia; "Focal Infections," Dr. George W. Mackenzie, Philadelphia; Section on Surgery, "Management of Septic Peritonitis," by Dr. W. Wayne Babcock, Philadelphia.

IT IS OF INTEREST to learn that work on the marble statue of Dr. Crawford W. Long, of Georgia, has been started. The statue is to be unveiled in the Hall of Fame, Washington, D. C., about Christmas. Funds raised total $9,683.70, leaving only $816.30 to be obtained. It will be recalled that Dr. Long was one of the discoverers of ether, and that a memorial plate was dedicated at his Alma Mater, the University of Pennsylvania.

LIONEL G. PEARSON, London architect, who contributes an article on American hospitals to the current issue of the *Lancet*, calls the Fifth Avenue Hospital in New York "probably the best-planned and best-equipped city hospital in the world." Comparing American and English hospitals, he writes that at the former "the course of a patient from the time he enters the building to the time he leaves it, dead or alive, is traced just as Henry Ford traces his car production."

DR. PIERRE JANET, French psychologist and exponent of a new school of psychiatry has been the guest of Dr. Seymour D. Ludlum, professor of psychiatry at the University of Pennsylvania and head of the Neuropsychiatric Bureau of the Philadelphia General Hospital. Dr. Janet conducted a clinic at the Hospital on the afternoon of October 14th, and in the evening spoke before the College of Physicians. He also addressed the advanced students of psychology of the University of Pennsylvania.

MAJOR-GENERAL JAMES H. MCRAE, head of the Philippine department of the United States Army, issued orders, September 28th, that the entire military personnel of the Philippines be inoculated, owing to the epidemic of Asiatic cholera in Manila. Since the present infection started, twenty-three deaths and 104 cases have been recorded at the city hospital. Health authorities, however, do not regard the outbreak as serious compared with several epidemics of a number of years ago.

AT THE OFFICIAL RECEPTION, given at the Department of Health in Rome to the American Stomatological Committee, a parchment of the 17th century was presented to the American Stomatological Association, as a token of honor to the American pioneers in recognition of their assistance to the Italians in their fight for the revocation of the 1923 dental law. This parchment and a report of the Committee's activities were presented at the meeting of the American Stomatological Association on October 15th in New York City. Dr. Asgis presented a paper on "The Recognition of American Stomatology in Europe."

UNDER THE LEADERSHIP of Dr. Ralph W. Webster, of Chicago, a nation-wide committee of doctors has been organized to raise a fund of $250,000 as a contribution from Rush Medical College alumni toward the general development funds of the University of Chicago. Announcement of the committee was made recently by Dr. Wilbur E. Post, who is assisting Dr. Webster in the effort. Dr. Post also gave out details of the plans for coöperation between the medical plant of the University and the Rush Medical College on the West Side.

This sum of $250,000 to be given to Rush doctors will be part of the $2,000,000 which alumni of the University are raising and which is to go toward the comprehensive program of construction and endowment covering the immediate needs of the institution. Dr. Post said yesterday that Rush men already have pledged $155,000 toward their quota, and thus the sum of $95,000 remains to be pledged. Of this $95,000, Rush alumni in Chicago will raise $70,000. The balance of $25,000 will be raised by doctors outside the city.

The University's program of immediate needs will cost $17,500,000, of which $6,500,000 has already been raised in addition to $2,400,000 in gifts which have not been credited to the program.

DR. HORACE D. ARNOLD, of Boston, President of the National Board of Medical Examiners, has announced that two additional states, Connecticut and Utah, have notified the Board that henceforth they will accept its certificate qualifying physicians to practice medicine in those states. The Board has been active since 1915 in establishing a standard qualifying examination of such character that its certificate can be accepted by all state boards licensing physicians. Its certificate is now recognized in more than thirty states, and also in Great Britain.

The meeting here was attended by Dr. Arnold, Major-General M. W. Ireland of Washington, Surgeon-General of the United States Army; Rear Admiral E. R. Stitt of Washington, Surgeon-General of the United States Navy; Dr. J. S. Rodman of Philadelphia, Secretary of the Board; Dr. Walter L. Bierring of Des Moines, Iowa; and Everett S. Elwood, Managing Director of the Board.

Dr. Arnold, who was formerly Dean of the Harvard Graduate School of Medicine, also announced the results of the Board's June medical examinations. A total of 508 were examined, the largest number

ever to take the written examination of the National Board. The examinations were held at thirty medical schools throughout the country, including Harvard in Boston, Cornell in New York, University of Chicago in Chicago, Tulane in New Orleans, University of Texas in Galveston, Washington University in St. Louis, University of Minnesota in Minneapolis, University of Oregon in Portland, University of California in San Francisco, and the College of Medical Evangelists in Los Angeles.

THE MOUTH-HYGIENE COMMITTEE of the American Public Health Association, whose central office is in New York City, held a meeting in St. Louis on October 19-24, 1925. The following papers were presented: "The Function of a Section in Public Stomatology," by Dr. Alfred J. Asgis, Chairman of the Committee; "Mouth Hygiene for the Adult," by Virgil Loeb, M.D., D.D.S., St. Louis; "The Possibilities in Dental Hygiene," by Harold DeW. Cross, M.D., Boston, Mass; "Dental Examinations of School Children," by Thomas C. McCrum, D.D.S., Kansas City, Mo.

SURGEON-GENERAL H. S. CUMMING, U. S. P. H. S., desires to announce that the "National Health Service" which advertises and sells a "Health Book," has no connection whatever with the Public Health Service, and in so far as can be learned, with no branch of the Government.

It should be definitely understood that the Public Health Service does not endorse this self-styled "National Health Service" or its books.

This announcement seems necessary in fairness to the general public.

THE SIXTH CONGRESS of the Far Eastern Association of Tropical Medicine, held under the auspices of the leaders of the medical profession in Japan, was opened in Tokyo, on Sunday, October 11, 1925. The period from October 11 to 18 was devoted to the scientific part of the Congress and the inspection of universities, colleges, institutes for medical research, hospitals, and public health laboratories, and the period from October 18 to October 31 to visits and excursions to various important places. The Japanese government has voted a big subsidy to meet the expenses of the Congress, which was a most significant gathering of scientific men in all branches of medicine from the Far East, India, and Australia.

MINUTES OF THE SECRETARIES' CONFERENCE

The Twentieth Annual Conference of the Secretaries of the Component County Medical Societies of the Medical Society of the State of Pennsylvania was called to order at 5:00 p. m., Tuesday, October 6, 1925, by M. Edith MacBride, Chairman, Secretary of the Mercer County Medical Society.

A telegram was read from J. Treichler Butz, Secretary of the Lehigh County Medical Society, stating his regret at being unable to be present to read his paper.

The minutes of the meeting held at Reading, 1924, were read and approved.

A nominating committee, consisting of John E. Livingood, Berks County; Edgar S. Buyers, Montgomery County, and Joseph Scattergood, Chester County, was appointed by the chairman to nominate officers for the 1926 Secretaries' Conference.

The following program was presented:

1. The Usefulness of a Bulletin to the County Medical Society. J. Treichler Butz, Secretary, Lehigh County Medical Society.

This paper was discussed by John H. Sandel, Secretary, Montour County Medical Society.

2. If County Medical Societies and Censorial and Councilor Districts Were Properly Activated, Would There be Any Need for the Existence of Independent Local Medical Societies? John M. Beck, Secretary. Huntingdon County Medical Society.

Discussion opened by Walter S. Brenholtz, Secretary, Lycoming County Medical Society.

3. How the Component County Secretaries can Assist the Editor of the State Journal. Frank C. Hammond, Chairman, Publication Committee, Board of Trustees.

4. The Relation of the Component County Medical Society to the Public in the More Modern Phases of Preventive Medicine. Edward Pardoe, Cambria County Medical Society.

Discussion opened by Alexander H. Colwell, Secretary, Allegheny County Medical Society and J. B. McCreary, State Department of Health, the latter mentioning a total of 135,000 children treated with diphtheria toxin-antitoxin.

5. Pushing Periodic Health Examinations—An Obligation of the County Medical Society. Elliott B. Edie, Fayette County, Committee on Public Relations.

Discussion opened by Joseph J. Meyer, Secretary, Cambria County Medical Society. Secretary J. B. Morrison, of the New Jersey State Medical Society, was introduced, and expressed his delight at being present and having the opportunity to report to his own Society on the advisability of organizing a similar conference.

The members adjourned for dinner. The only after-dinner remarks were made by H. Clay McKinley, of Somerset, and President William D. Haggard of the American Medical Association, the latter adding great impetus to the movement for periodic health examinations in a most stirring and energizing address.

The nominating committee reported as follows: Chairman, Charles P. Stahr, Lancaster County; Vice-Chairman, Henry G. Munson, Philadelphia County; Secretary, Walter E. Egbert, Delaware County; Executive Committee, Joseph J. Meyer, Cambria County; Alexander H. Colwell, Allegheny County, and Christian B. Longenecker, Assistant Secretary, State Society.

There were present twenty-nine component-county-society secretaries, seven officers of the State Society and eleven guests.

The following component-county-society secretaries were present: Alexander H. Colwell, Allegheny County; Jay B. F. Wyant, Armstrong County; Norman A. Timmins, Bedford County; John E. Livingood, Berks County; Anthony F. Myers Bucks County; Joseph J. Meyer, Cambria County; Jacob A. Trexler, Carbon County; Joseph Scattergood, Chester County; John M. Quigley, Clearfield County; Charles B. Yost, Columbia County; John W. Hazen Crawford County; Walter E. Egbert, Delaware County; Roy S. Minerd, Erie County; A. W. Thrush, Franklin County; John M. Beck, Huntingdon County; George A. Clark, Lackawanna County; Charles P. Stahr, Lancaster County; W. Horace Means, Lebanon County; Walter S. Brenholtz, Lycoming County; Francis DeCaria, McKean County; Edith MacBride, Mercer County; J. A. C. Clarkson, Mifflin County, Edgar S. Buyers, Montgomery County; John H. Sandel, Montour County; Henry G. Munson, Philadelphia County; A. B. Fleming, Schuylkill County; H. C. McKinley, Somerset County; Charles C. Cracraft Washington County; Charles D. Ambrose, Westmoreland County.

The following officers of the State Society were present: J. Norman Henry, Ex-President; Ira G. Shoemaker, President; Harry W. Albertson, President-Elect; Walter F. Donaldson, Secretary; C. B. Longenecker, Assistant Secretary; Donald Guthrie, Howard C. Frontz, Frank C. Hammond, Trustees.

The following guests were present: William D. Haggard, President of the American Medical Association; J. B. Morrison, Secretary, New Jersey Medical Society; Elliott B. Edie Uniontown; Edward Pardoe, South Fork; Frank G. Runyeon, Reading; A. L. DeWees, Haverford; Maurice I. Stein, Harrisburg; John W. Croskey, Philadelphia; Charles I. Stambaugh Reedsville; William S. Dougherty, Portage; Spencer M. Free, Dubois.

CHARLES P. STAHR, *Secretary*.

OFFICIAL TRANSACTIONS

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Organized 1848 Incorporated, December 20, 1890

Minutes and Proceedings of the Seventy-fifth Annual Session, held at Harrisburg October 5, 6, 7 and 8, 1925

MINUTES OF THE HOUSE OF DELEGATES

MONDAY AFTERNOON, OCTOBER 5, 1925

The first meeting of the House of Delegates was called to order in the Ball Room of the Penn-Harris, Harrisburg, Pa., on Monday, October 5, 1925, at 3:10 p. m., by the President, Dr. J. Norman Henry, Philadelphia.

DR. HENRY: The meeting of this, the House of Delegates of the Seventy-fifth Annual Session of the Medical Society of the State of Pennsylvania will please come to order. You will first listen to the preliminary report of the chairman of the Committee on Credentials.

Dr. Edith MacBride reported that fifty-eight delegates had registered. The chairman announced that as twenty constituted a quorum, the House could proceed with the business of the day.

The next order of business being the presentation, correction, and adoption of the minutes of the seventy-fourth annual session, Dr. Hunsberger, Norristown, moved that the minutes be approved as printed in the transactions and that they be not read.

Seconded by Dr. Munson and unanimously carried.

THE PRESIDENT: The next order of business is a report from myself as president of the Society in regard to the activities of the executive department of the Society during the past year.

The year has been, as many of you know, a very busy one. I have traveled pretty much all over the State. I think I am the most traveled president the Society has ever had. I will not enumerate the many meetings I have attended, for it would weary you, but in effect I have visited many group county meetings and not a few censorial meetings throughout the State during the year. These meetings have been a revelation to me. They have been well attended and there has been marked enthusiasm both in the programs as presented and in the business and legislation of our Society. If I may be allowed a personal word, I wish to say that I have enjoyed these visits, and I wish to take this occasion to thank the executives of the societies who have entertained me at dinner, taken me into their meetings, and given me a good time.

I do not wish to take up much time, but I feel that it is my duty to report something of the legislative work accomplished last year. Fortunately, the Legislature does not meet every year, but last year you will recall that the House of Delegates disapproved the One-Board Bill. This One-Board Bill was drawn up with the idea of meeting successfully the inroads of the members of the various quack cults that spring up from time to time and try to obtain a license to practice upon the innocent and unsuspecting public. So long as we live and practice the healing art there will be quacks. There always have been and always will be, and no law can cover the whole situation. In a sense, this One-Board Bill was ideal, except for one thing, and that was that the proposed representation on the board was equally divided between our profession, the osteopaths, homeopaths, and eclectics, and it was not, in our sense of representative government, a proper representation. I think it was on that ground alone that the bill went to defeat last year. Personally, I had a very strong feeling that the representation was not right. It seemed ridiculous that our Society, with over 7,000 members, should be allotted two members, that the homeopaths with a membership of only 1,200 should have two members, and that the osteopaths and eclectics should also have two members each.

The defeat of that bill having taken place, the matter of a legislative program was referred back to our Board of Trustees, with power to direct the Legislative Committee in its activities during the coming year. Those activities were pretty well understood. It was known that the osteopaths would try to get a little more power to use drugs and the knife, without proper education. It was also known that the chiropractors and the new cult known as the "Naturopaths" would try to secure a law in their favor.

Our work consisted largely in asking for hearings before the House and sometimes the Senate, sometimes with committees combined from the House and Senate, and in distributing bulletins, writing, and telegraphing to members of the Legislature, and using what influence we could to bring results. I will not take time other than to say that every one of the proposed cult bills was defeated. The only bill passed was one requiring the yearly registration of physicians. That was thought to be a good thing. It is one more trouble for the practicing physician, it is one more dollar added to the tax burden, but the argument was that it would afford at Harrisburg an official list of every one practicing the healing art in Pennsylvania. The trustees felt that this was a move in the right direction, agreement was arrived at, and no opposition was made to that bill.

I will quote a little of what occurred at the chiropractic hearing. I feel so strongly about this that I want people to know that the matter will come up again and again, and the better understanding the medical men in the State have of the affair, the better it will be handled. The substance of our objection to the chiropractors being granted a license to practice their method on every known disease and condition, without reservation, was that chiropractors are not properly educated to be trusted with the life and health of our citizens, that they are ignorant of the fundamental sciences necessary to make proper diagnoses. Although not believing in bacteria as the cause of disease, nor in vaccination, serum therapy, use of antitoxins, nor any of the science which activates preventive and specific medicine, they were asking authority from the State to treat every known disease by adjustment of vertebrae, which are conveniently displaced (?) in order to give the particular charlatan an opportunity to make replacement and effect a so-called cure.

We had to meet every time the statement that the medical profession at large is a trust, that we are jealous of such people, and plan to drive them out of business to defend our own pocketbooks. This is a very unjust and unkind attitude, but I feel that the public can be educated. I am sure that every legislator who does not vote to the crack of the whip can be made to listen to a plain, straightforward talk from us physicians.

Our committee appeared before a joint committee of the House and Senate and we found the committee room so crowded when we arrived that we could scarcely get in. The chiropractors had a large representation there, probably several hundred, and some of us had to stand. There were some six or seven of the medical profession

there. One of the men present made a speech in favor of the chiropractors and then called upon the medical committee to make an argument. We responded that unless we were forced to do so, we did not intend to attack their method of treating disease, but intended to base our argument on the fact that the responsibility lay with the Legislature. We were given some thirty-five or forty minutes, and then a lawyer, whom I was told received a very large fee for his work, made a purely legal argument in their favor, throwing dust in the eyes of every one and making a most disagreeable speech. Any one could tell from his manner that he was saying things that he did not believe simply because he was paid. He made a very nasty attack on the medical profession. His speech was followed by those of orators from various places, one from California, and one from Philadelphia. The latter went along smoothly until Dr. Morgan, of Philadelphia, asked him if he believed in bacteria, and he said "No." As he proceeded I challenged him on every point, and we pointed out to the Senate Committee that they were being asked to license people to treat citizens with diphtheria, smallpox and so on, and that these chiropractors did not believe in bacteriology or any of the fundamental things in medicine. We followed this with a printed statement to the members of the Legislature to the effect that the whole medical profession in the State was to be apprised of the outcome and would hold them responsible in the eyes of the public and demand fair play, not only for these cultists but also for the public itself. We made it plain that the Senate would be held accountable. About four weeks later the chiropractic bill went down to defeat by a good majority.

The Naturopathic Bill suffered the same fate, although it was defeated, without a hearing, through the determined efforts, by telephone and telegraph, of Drs. Knowles, Miner, Van Sickle, and others, who learned of the passage of this bill through the House and its entrance into the Senate in the last hours of the waning session.

At the request of the chairman of a special committee of the Philadelphia Bar Association, your President appeared in Philadelphia before the Judiciary General Committee of the House in behalf of a bill to regulate medical expert testimony, and again in Harrisburg before a larger group. The proposed bill was simply this, that when a plea of insanity was raised in any criminal case the presiding judge could appoint physicians competent to pass on this, who would be paid by the State. This did not do away with the man's constitutional right to call in other physicians if he wished, but the supposition was that the decision would be fairer if given by unprejudiced physicians who were not called or influenced by people with large sums of money back of them, as has happened in some instances—to the disgrace of the profession. That bill was defeated because most of the men on the Judiciary Committee were lawyers and thought this gave too much power to the judge, which was a ridiculous view. This bill should come up again, and I believe it will pass.

At the direct personal request of the Governor, your President argued before the Senate Appropriation Committee in favor of the appropriation for the health work of the State, and was informed on leaving the Chamber that $200,000 of the $500,000 cut would be restored. I am unable to give the final results in this instance.

I am entirely satisfied that the best way, and indeed the only way, to handle the cult question is by the passing of a One-Board Bill, such as was presented at Reading last year, with the single radical exception that the respective schools of the Board members should not be designated.

I want also to speak a word of what has been in my mind for some time—that the Governor of the State should ask the President of this Society about medical matters of importance. I am glad that I could keep the Governor's appointment when asked, although I did it at considerable inconvenience.

In conclusion, it has become apparent from the campaign conducted this year that it is possible to educate the members of the Legislature and disabuse their minds of the idea that we are a trust and have acted purely on selfish motives. I am sure these men can be reached in a reasonable way, barring the ones who vote at the crack of the whip.

Finally, the lesson I learned is this: I do not believe that this Society can go again and again to the Legislature without a progressive policy. It is not possible to continue there in opposition only and accomplish anything. I do not believe that the chiropractors, if they go in with another bill, as they surely will, can be defeated. The time has come for the medical profession to unite on a One-Board Bill, and suggest that the board be so composed that the president of the Board of Medical Education and Licensure and seven or eight other members shall decide who shall be licensed to treat the sick. This would meet with some opposition from the homeopaths and others who are now on the Board in disproportionately large numbers, but we should go on with the fight rather than be defeated by the cults in this State. We have a year to do this and I believe the Society can develop a bill which will pass. Why should we be held back by a State medical society with only a few score members, when we are trying to do the fair thing?

I hope this has not been too lengthy, but I wished to tell you a little of the details. Whatever was accomplished was achieved by the teamwork of the men in charge of the legislative program. (Applause.)

The secretary then announced the following reference committees appointed by the president-elect, Dr. Shoemaker:

Committee on Credentials: M. Edith MacBride, *Chairman*, Sharon; Jefferson H. Wilson, Beaver; Frank P. Lytle, Birdsboro.

Reference Committee on Reports of Officers and Standing Committees: Edward E. Mayer, *Chairman*, Pittsburgh; O. H. Petty, Philadelphia; T. Lamar Williams, Mt. Carmel.

Reference Committee on Scientific Business: J. Newton Hunsberger, *Chairman*, Norristown; Robert A. Keilty, Danville; Charles B. Maits, Pittsburgh.

Reference Committee on New Business: Samuel P. Mengel, *Chairman*, Wilkes-Barre; Frederick J. Bishop, Scranton; Arthur E. Crow, Uniontown.

Reference Committee on Place of Meeting: Charles A. E. Codman, *Chairman*, Philadelphia; George A. Knowles, Philadelphia; Harold A. Miller, Pittsburgh.

The president stated that if there were no objections, the following reports, which were published in the September JOURNAL and in the *Official Transactions*, would be referred to the Reference Committee on Reports of Officers and Standing Committees:

Secretary, Treasurer, Chairman of the Board of Trustees, Ten Trustees and Councilors, Committee on Public Health Legislation, Committee on Public Relations, Committee on Society Comity and Policy, Committee on Medical Benevolence, Committee on Archives, Committee on History, Committee on Defense of Medical Research, Committee on Promotion of Efficient Laws on Insanity, Committee on Conservation of Vision, Committee on Cancer, Reports of Delegates to Other Societies.

He further stated that if any officer or committeeman present wished to make a supplementary report, or if any one wished to hear the reports read, it was his privilege to ask that this be done.

Dr. William H. Mayer, Pittsburgh, moved that the reports be referred to the proper reference committees.

Motion seconded by several and carried.

The President then stated that if there were no objections, the following reports, which also were published in the September JOURNAL and in the *Official Transactions*, would be referred to the Reference Committee on Scientific Business:

Committee on Treatment of Burns, Committee on Laboratories, Committee on Compensation Law, Committee on Morticians, Committee to Confer with Secretaries of Health and Welfare, Committee to Study Quarantine Laws.

Dr. Thomas R. Currie, Philadelphia, moved that these reports also be referred to the proper reference committee.

Motion seconded and carried.

Dr. John M. Quigley, *Clearfield:* As a member of the Committee to Study Quarantine Laws, I wish to dissent from Section III, Paragraph 12, where recommendation is made that cases of measles, German measles, chickenpox, mumps, or whooping cough, shall not be placarded routinely. I am not satisfied with this part of the report, and I believe no good will come from removal of the placard from these quarantinable diseases. After six years' work in my section, I am satisfied that without placards the quarantine law regarding these diseases might as well be withdrawn. I think that placarding is a mighty good thing, and I wish to go on record as opposing the view that the placarding should be discontinued.

Dr. Theodore B. Appel, Lancaster, moved that the minority report should be referred to the same committee.

Motion seconded and carried.

Reading of Correspondence:

The Secretary read a communication from Dr. Olin West, Secretary of the American Medical Association, as follows:

Dear Doctor Donaldson:

I am enclosing a suggested draft of a Constitution and By-Laws for state medical associations, prepared by the special committee of the House of Delegates of the American Medical Association and presented to the House at the Atlantic City Session.

I was instructed by the House of Delegates to refer this draft to the constituent state associations of the Association. It is not intended to be anything more than suggestive, and, if thought suitable for the purpose, to serve as a basis for bringing the constitutions and by-laws of all constituent associations into such uniformity as may be thought desirable.

The Committee of the House of Delegates was instructed to study the constitutions and by-laws of constituent state associations, of component county societies, and of the American Medical Association. It was first thought that the study should start with the constitutions and by-laws of the component county medical societies, but as the component societies are chartered by the constituent state associations, it seemed desirable to the committee that the constitutions and by-laws of the constituent state associations should receive first attention, and that after the draft prepared by the committee had been considered by these organizations and the results of these considerations made known to the committee, the study of the constitutions and by-law of the component county societies could then be taken up. After a supplementary report of the committee has been submitted to the constituent state associations and component county societies, the Constitution and By-Laws of the American Medical Association might then be studied with a view of suggesting such changes as might be necessary to make it conform to the organic instruments of the constituent and component societies.

It is respectfully requested that the enclosed draft be submitted to the House of Delegates of your state association, and that you advise me as to any action that may be taken in the matter.

Very truly yours,
(Signed) Olin West.

Secretary Donaldson: Inasmuch as it is now three years since our own Constitution and By-Laws has been printed anew, and inasmuch as during that time several amendments have been made, I move that a committee of this Society be appointed by the President to make a study of this model constitution and by-laws, and recommend to the House of Delegates next year a new Constitution and By-laws containing amendments adopted since 1922, and recommendations that may seem of moment to the committee.

Motion seconded and carried.

The Secretary then read a portion of a communication which had been received from the Medical Director of the Clinical Research Department of the American Birth Control League, Inc., including the following resolution:

Resolved, That at this session of the Sixth International Neo-Malthusian and Birth Control Conference, this meeting of American physicians affirms that birth control, being a very important and complicated problem requiring scientific study and guidance, comes properly within the province of preventive medicine; and that the subject should not only have a place in the programs of county and state societies and of the American Medical Association, but also become a part of the work of clinics, hospitals, and other medically supervised organizations engaged in scientific study and prevention of disease and crime.

Upon motion, which was seconded and carried, this communication was referred to the Committee on New Business.

The Secretary then read the following communication from the American Peace Award, and moved that the Secretary be instructed to reply properly to the communication:

Dear Doctor Van Sickle:

Our committee will greatly appreciate it if you will place the following matter before your convention:

The World Court has been made the unfinished business of the Senate for December 17th next.

The question of our adherence to the Court on the Harding-Hughes-Coolidge terms has already been before the Senate for more than two years. If the discussion of the Court on December 17th is to result in an actual vote in the Senate upon it, we believe the people of the country will need to express emphatically their desire for speedy action. The Isle of Pines treaty was pending in the Senate for twenty years.

Leaders of both the major parties have endorsed the Harding-Hughes form of the Court. President Coolidge has recommended our adherence to the Court on these terms in his message to Congress in each of the two years just past. The leading organizations of the country have endorsed the Court on these terms, including the American Bar Association, the Chamber of Commerce of the United States, the Commercial Law League of America, the American Manufacturers' Association, the League of Women Voters, the National Grange, the General Federation of Women's Clubs, the American Federation of Labor, and the Jewish Welfare Board.

Will the Medical Society of the State of Pennsylvania in convention assembled, by suitable resolution, express its emphatic desire for a record vote of the Senate on the Court on the Harding-Hughes terms as soon as practicable after the discussion of the Court begins on December 17th next? Further, will you send a copy of this resolution to every United States Senator, and in particular to the members of the Foreign Relations Committee, a list of which you will find enclosed?

The World Court is not a political question, nor should it be. The Court itself is a judicial and not a political institution. Your convention in taking the action above requested will be simply expressing its conviction that the United States should participate in the only existing mechanism for applying international law to the settlement of international disputes and thus "outlawing war."

Will you be good enough to write us whether the question is brought before your convention and what action is taken?

Sincerely yours,
(Signed) Esther Everett Lape,
Member-in-charge.

The Secretary then read the following communication from Dr. Henry D. Jump, Philadelphia:

"I herewith present my resignation as a member of the House of Delegates of the American Medical Association. My reason therefor is that I feel that it will be impossible for me to go to Dallas."

Upon motion duly carried, Dr. Jump's resignation was accepted.

The Secretary stated that he had received a communication from Dr. Olin West, reminding the Society of the fact that in the reapportionment of delegates to the American Medical Association, Pennsylvania was now entitled to ten instead of eight delegates, as before.

New Business:

The Secretary presented the following communication from Dr. Arthur C. Morgan which, on motion, was referred to the Committee on New Business:

Resolution adopted at a meeting of the past and present officers of the Philadelphia County Medical Society, held April 27, 1925.

Resolved, That it is the sense of this meeting, that the Medical Legislative Conference of Pennsylvania should be actively continued, and we recommend the preparation of a one-board bill which would be acceptable to the Medical Legislative Conference and the Medical Society of the State of Pennsylvania, to be submitted at the next meeting of the Pennsylvania Legislature for adoption.

The President: I wish to point out one possible danger in this resolution. It is that the preparation of a one-board bill which will be acceptable to the Medical Legislative Conference may be difficult. It is possible that the kind of bill we would consider would not be acceptable to the Conference, composed as it is at present.

A motion to refer to the Committee on New Business was put to a vote and carried.

The Secretary read the following communication which had been sent to President Henry by the Secretary of the National Board of Medical Examiners, and moved that it be referred to the Committee on New Business:

WHEREAS, The State Board of Medical Education and Licensure of Pennsylvania at its August meeting passed a resolution requiring candidates for licensure holding the certificate of the National Board to have had two years of experience in the practice of medicine; and

WHEREAS, The certificate of the National Board is a credential granted after thorough examination to show the candidate's fitness to practice medicine, but which confers neither right nor privilege to enter such practice until accepted and approved by a state licensing board; and

WHEREAS, The certificate of the National Board of Medical Examiners is now accepted as an adequate credential for licensure by the licensing boards of over thirty states without requiring practical experience other than an internship; and

WHEREAS, The National Board's plan of a national qualifying examination for entrance to the practice of medicine has the endorsement of all the leading medical organizations of this country, including the Council on Medical Education of the American Medical Association, the Federation of State Medical Boards of the United States, the Association of American Medical Colleges, the Medical Corps of the Army, Navy, and Public Health Services, as well as the Conjoint Board of England and the Triple Qualification Board of Scotland; and

WHEREAS, Such a regulation would prevent hundreds of young physicians thoroughly trained in the medical schools of this State from deriving full benefit from the certificate of the National Board of Medical Examiners by using it as a means for obtaining a license to practice medicine; therefore be it

Resolved, That the House of Delegates hereby urges the State Board of Medical Education and Licensure to reconsider and rescind its resolution requiring two years of practical experience from candidates holding the National Board's certificate.

THE PRESIDENT: These two gentlemen, the secretary and director of the Board, feel very strongly about this matter, and I suggested that they prepare a resolution, telling them that if it was properly worded and properly presented, it would be presented to the House of Delegates. Inasmuch as the Licensure Board of our State had put this requirement on other state boards, they now put the same restriction on the National Board. For what reason I do not understand, but as the matter now stands a man passing the National Board examination can not come up for licensure in Pennsylvania, even though he has served an internship, until he has practiced for two years.

DR. LAWRENCE LITCHFIELD, *Pittsburgh:* We have needed very much a National Board of Medical Examiners, so that a doctor could get a license that would be good in any State in the Union. That need has been deeply felt. The National Board has been working very hard to get their certificate accepted in all the states, and I think has had over thirty states accept the certificate. I think anything Pennsylvania does that would throw more obstacles in the way of getting this license accepted would be a very grave mistake, owing to the size and influence of our State, medically speaking. I am much interested in this National Board because I have been closely in touch with it since its organization, and I wish to urge the House to pass this resolution when it comes back from the Reference Committee.

THE PRESIDENT: Do you know any good reason for a ruling of that sort?

DR. LITCHFIELD: I do not know of any reason at all. After a man has passed the National Board and passed an internship in a hospital of proper class, to require two years' practice of medicine in another state is unnecessary. The National Board examination is harder than that of any state, so far as I know. It is much more comprehensive.

Dr. Stanley Q. West, Philadelphia, rose to a point of order, stating that a motion to refer was not for discussion.

The motion to refer to the Committee on New Business was then put to a vote and carried.

The Secretary then presented the following resolutions:

WHEREAS, Physicians attend scientific meetings of medical societies and pursue postgraduate medical studies for the purpose of improving their professional knowledge and skill, just as merchants and manufacturers attend conventions and visit factories to gain necessary knowledge to keep their equipment up to date, and

WHEREAS, Merchants and manufacturers are permitted to deduct for income-tax-calculation purposes the expenses incidental to such attendance, while physicians attending scientific meetings and postgraduate schools and clinics are not permitted thus to deduct incidental expenses, and

WHEREAS, The expenses of attending scientific meetings of medical societies and the expenses of postgraduate study are ordinary and necessary expenses of the practice of medicine, and are incurred in the pursuit of such practice; therefore be it

Resolved, That the 1925 House of Delegates of the Medical Society of the State of Pennsylvania, representing seven thousand four hundred (7,400) members, herewith appeal to the Pennsylvania members of the Committee on Ways and Means of the House of Representatives and the Senate Committee on Finance to use their utmost endeavor so to amend the Revenue Act of 1924 as to abolish the virtual tax on postgraduate medical study and attendance upon scientific medical meetings as at present imposed under Section 214 of the Act, as construed by the Commissioner of Internal Revenue.

Furthermore, The members of the Medical Society of the State of Pennsylvania herewith appeal to the Honorable David A. Reed, of Pittsburgh, Pennsylvania, the Honorable Harris J. Bixler, of Johnsonburg, Pennsylvania, and the Honorable Henry W. Watson, of Langhorne, Pennsylvania, of the above-mentioned Committees to endeavor so to amend the 1924 Revenue Act, Section 705, as to impose only the original tax of one dollar ($1.00) upon physicians under the Harrison Narcotic Act, and to abolish the additional tax of two dollars ($2.00), first imposed in 1918, upon physicians prescribing narcotics, to help meet the expenses of the World War.

Secretary Donaldson moved that the resolutions be referred to the Committee on New Business.

Motion seconded and carried.

Dr. Charles A. E. Codman, Philadelphia, presented the following resolution:

WHEREAS, In the interest of justice, the employment of experts in criminal cases should not be left to either the prosecution or the defense; therefore be it

Resolved, That it is the sense of the House of Delegates that the State should provide a commission of expert psychiatrists to sit in cases in court in which the plea of insanity is made; and be it further

Resolved, That the President of the House of Delegates appoint a Committee of five to study the question of insanity as a defense in criminal cases and report their findings and recommendations, if any, to the House of Delegates in 1926.

Dr. John M. Quigley moved that this be referred to the Committee on New Business.

Motion seconded and carried.

The Secretary then read the proposed amendment to Article 5 of the Constitution, as published on page 87 of the *Official Program*, and moved its adoption, the article as amended to read as follows:

Article 5—The House of Delegates shall be the legislative body of this Society, and shall be composed of: (1) Delegates designated by the component county medical societies; each component county medical society shall be entitled to send to the House of Delegates each year one delegate for every 100 of its members or fraction thereof. (2) The presidents of the component county medical societies or, in the absence of the president, the secretary of the component county medical society. (3) The President of this Society, and (4) ex-officio the Trustees, the Secretary, the Treasurer *and the Ex-Presidents of this Society*, but without the right to vote.

If any component county medical society is without representation at the close of the roll call of the second meeting of any session of the House of Delegates, then the members registered in attendance from that county may select from their number delegates which such county is regularly entitled to elect; if but one member is registered he shall be seated as a representative of that county. When any delegate is once seated, no change may be made during the session. No individual member shall be entitled to more than one vote.

No individual, occupying an ex-officio membership in the House of Delegates, shall be seated as a delegate with vote.

The Secretary then read the proposed amendment to Article 9, Section 2 of the Constitution. Dr. John M. Quigley moved its adoption, the section as amended to read as follows:

Section 2—Each year, out of the funds of this Society, the Trustees *may* appropriate a sum not to exceed $1.00 for each member, to be set aside by the Treasurer as a special fund to be known as the Medical Defense Fund. This fund shall be kept separate from other moneys and may be invested by the Treasurer under the direction of the Board of Trustees, and shall be used only for the legitimate expenses of members threatened with or prosecuted for alleged malpractice; provided, however, that no member of this Society shall be entitled to the benefits of this fund who was not in resident practice in the State of Pennsylvania when the alleged act of malpractice was committed.

The motion was seconded.

DR. WILLIAM H. MAYER *Pittsburgh:* This matter has been considered by certain members of the Alle-

gheny County Medical Society. It is believed that this sum of $33,000 is not large enough to insure a reasonable degree of safety, and that the sum should be at least $100,000. Of late, the income has never been used entirely, but it is thought that the Society should have a sum large enough to be at least in proportion to the size of the Society.

DR. DONALDSON: I feel quite sure that if Dr. Mayer and the other members of the Allegheny County Society will realize that this will not be obligatory on the Board and that the Board have in mind to increase the Medical Defense Fund, there will be no objection.

DR. G. CLYDE KNEEDLER, *Pittsburgh:* I think we should leave this alone until we acquire the sum of $100,000. I am opposed to any change at present.

DR. J. NEWTON HUNSBERGER, *Norristown:* I think we should be taking a step backward to think of cutting down the allotment of $1.00 a year. I believe it should be at least $2.00.

DR. DONALDSON: The appropriation has never been more than 75 cents, it has sometimes been as low as 15 cents, and last year it was only 25 cents. The Trustees are anxious to increase the Medical Benevolence and Endowment Funds, as I am sure you all are, and if we can be satisfied with this sum which is sufficient to safeguard the members, the other funds can be increased more rapidly.

DR. MAYER: After this explanation on the part of the Secretary, I have been authorized to withdraw the objection.

The President put the motion to adopt to a vote and it was unanimously carried.

The Secretary then read the proposed amendment to Chapter 5, Section 5, of the By-Laws.

Dr. G. Clyde Kneedler moved its adoption, motion seconded by Dr. Hunsberger, and carried; the Section as amended to read as follows:

Section 5—The Treasurer shall hold all funds of this Society together with bequests and donations and deposit the same in such banks or trust companies as may be designated as depositories by the Board of Trustees. He shall pay money out of the treasury only on written orders signed by the President and countersigned by the Secretary. He shall render annually to this Society a full account of the state of funds. He shall give bond of a surety company in *an appropriate amount* for the faithful performance of his duties.

The Secretary next read the proposed amendment to Chapter 5, Section 7, of the By-Laws. Dr. C. A. E. Codman, Philadelphia, moved adoption. Motion seconded and carried, the section as amended to read as follows:

Section 7, Paragraph 6—Regular meetings of the Board shall be held immediately after the annual session of this Society and on the first Tuesday in the months of December *and* February and *the second Tuesday* of May each year. Special meetings of the Board may be called at any time by the Chairman or by six members of the Board. Six members of the Board shall constitute a quorum. During the intervals between the sessions of the House of Delegates, the Board of Trustees shall supervise the action of committees constituted by the action of the House of Delegates.

The Secretary read a telegram from Dr. Edward E. Mayer, Pittsburgh, chairman of the Committee on Reports of Officers and Standing Committees, stating that on account of court work he would be unable to serve, and further stated that President-Elect Shoemaker had appointed Dr. O. H. Petty, of Philadelphia, as chairman.

The President requested the chairmen of the Reference Committees to announce the time and place of their meetings, and stated that any members of the House who were particularly interested in any of the resolutions which were to be considered, were urged to go before the committees and state their views.

There being no further business, the House of Delegates adjourned at 4:45 to reconvene at 9 a. m. Wednesday.

J. NORMAN HENRY, *President,*
WALTER F. DONALDSON, *Secretary.*

WEDNESDAY MORNING, OCTOBER 7, 1925

The second meeting of the House of Delegates was called to order in Parlor A of the Penn-Harris, Harrisburg, on Wednesday, October 7, 1925, at 9:10 a. m., by the President, Dr. Ira G. Shoemaker.

Dr. Edith MacBride, Sharon, Chairman of the Committee on Credentials, reported that a quorum was present, and the President declared the House duly constituted for the transaction of business.

The Secretary read a summary of the minutes of the preceding meeting of the House of Delegates.

On motion duly seconded and carried the minutes were adopted.

The Secretary then read the section of the By-Laws governing the election of officers.

The President appointed the following to act as tellers: F. Hurst Maier, Philadelphia; I. Hope Alexander, Pittsburgh; and James D. Lewis, Scranton.

The following were nominated for President-Elect: Harry W. Albertson, Scranton; Thomas G. Simonton, Pittsburgh; John F. Culp, Harrisburg.

The Chairman ruled that it would be to advantage to ballot on the President-Elect at this time.

The Secretary called the roll and the delegates deposited their ballots.

While the ballots were being counted, the following nominations were made:

First Vice-President, Clarence R. Phillips, Harrisburg; Second Vice-President, Edgar S. Buyers, Norristown; Third Vice-President, William E. Delaney, Williamsport; Fourth Vice-President, T. Lamar Williams, Mt. Carmel; Secretary, Walter F. Donaldson, Pittsburgh; Assistant Secretary, Christian B. Longenecker, Philadelphia; Treasurer, John B. Lowman, Johnstown; Trustee and Councilor, Second District, Frederick J. Bishop, Scranton; Ninth District, Jay B. F. Wyant, Kittanning.

Dr. Theodore B. Appel, Lancaster, moved that the President of the Society cast the unanimous ballot of the House for the nominees.

Motion seconded by Dr. John M. Quigley, Clearfield, and carried.

The President announced the ballot cast and declared the gentlemen duly elected to their respective offices.

Dr. F. Hurst Maier, for the tellers, announced that 108 votes had been cast, but that none of the candidates had received the necessary majority.

The President requested the delegates to prepare their ballots for a second vote.

While the second ballots were being counted the President asked for the report of the Committee on Society Comity and Policy.

Dr. John B. McAllister, Harrisburg, presented the following report: Your Committee would like to place in nomination for the House of Delegates of the American Medical Association the following:

Delegates—C. C. Cracraft, Claysville, term expires 1927; J. Newton Hunsberger, Norristown, term expires 1927; William H. Mayer, Pittsburgh, term expires 1927; John A. Campbell, Williamsport, term expires 1927; Arthur E. Crow, Uniontown, term expires 1927; John H. Murray, Punxsutawney, term expires 1927; Orlando H. Petty, Philadelphia, term expires 1927; J. Norman Henry, Philadelphia (to fill the unexpired term of Henry D. Jump, Philadelphia, resigned), term expires 1926.

Alternates Designate—Edgar M. Green, Easton, term expires 1927; J. Trechler Butz, Allentown, term expires 1927; John J. Buchanan, Pittsburgh, term expires 1927; Charles G. Strickland, Erie, term expires 1927; Charles A. E. Codman, Philadelphia, term expires 1927; Horace C. Kinzer, Lancaster, term expires 1927; Earl R. Whipple, Steelton, term expires 1927; J. A. C. Clarkson, Lewistown, term expires 1927.

Alternates-at-Large—Robert K. Rewalt, Williamsport, term expires 1927; George W. Reese, Shamokin, term expires 1927; Thomas G. Simonton, Pittsburgh, term expires 1927; Howard C. Frontz, Huntingdon, term expires 1927; Israel Cleaver, Reading, term ex-

pires 1927; John B. Lowman, Johnstown, term expires 1927; J. B. McAlister, Harrisburg, term expires 1927; Frank G. Hartman, Lancaster, term expires 1927.

Upon motion duly seconded and carried the report of the committee was accepted.

Dr. Samuel P. Mengel moved that the Secretary be instructed to cast the unanimous ballot of the House for the nominees.

Motion seconded by Dr. Christian J. Frantz, Warren, and carried.

The Secretary announced the ballot cast and the President declared the gentlemen duly elected.

Dr. F. Hurst Maier, for the tellers, announced that Dr. Harry W. Albertson had received the majority of the votes cast.

Dr. Carey J. Vaux, Pittsburgh, moved that the election of Dr. Albertson be made unanimous.

Motion seconded by Dr. Ellenberger, Harrisburg, and carried.

The President declared Dr. Albertson unanimously elected as President-Elect, and appointed Dr. Carey J. Vaux and Dr. Walter S. Brenholtz to escort Dr. Albertson to the platform.

Dr. Albertson, in accepting, said: Mr. President, members of the House of Delegates: I presume it behooves me to say something. The first thing I wish to say is that I thank you very much for this honor. I am just a humble practitioner and feel that you have elevated me to something that is the greatest honor of the State Society, the greatest State Society of the forty-eight societies in this Union. I can not tell you how much I feel the responsibility that you have conferred upon me by this election. I fully realize my shortcomings. I have served you as a trustee for eight years and have done my duty to the best of my ability. I will endeavor to serve you as President-Elect and President of this Society, and will do my duty to the best of my ability. But there is much to think about.

I have thought a great deal about this honor that you have conferred upon me and what the work entailed in this office for the next two years means. One man can not accomplish alone the things we hope to accomplish during the next two years. You have always given heartily of your support to the president of the Society and I hope, and feel assured, that I may have your help during the next two years in putting across, once and for all, a practice act that will place the medical profession in a unified position in this Commonwealth. This has been my ambition for years and I want your support in this. There are many minor things in which I shall wish your support, but this one great thing must be done now if we ever expect to do it.

Again I thank you and assure you of my sincere wish to work in this manner. (Applause.)

The Secretary announced that he had in his possession nominations for sixty-three district censors and asked the permission of the House to put the following in nomination to serve, if elected, until October 6, 1926:

DISTRICT CENSORS

First District.—Philadelphia County, John A. McGlinn, Philadelphia.

Second District.—Chester County, U. G. Gifford, Kennett Square; Delaware County, J. Harvey Fronfield, Media.

Third District.—Bucks County, Alfred E. Fretz, Sellersville; Lehigh County, George F. Seiberling, Allentown; Monroe County, J. Anson Singer, East Stroudsburg; Northampton County, William P. O. Thomason, Easton.

Fourth District.—Berks County, C. W. Bachman, Reading; Montgomery County, William McKenzie, Conshohocken; Schuylkill County, James A. Lessig, Schuylkill Haven.

Fifth District.—Dauphin County, Hiram McGowan, Harrisburg; Lancaster County, Walter J. Leaman, Leaman Place; Lebanon County, W. M. Guilford, Lebanon.

Sixth District.—Adams County, T. C. Miller, Abbottstown; Cumberland County, E. R. Plank, Carlisle; Franklin County, A. W. Thrush, Chambersburg; York County, L. S. Weaver, York.

Seventh District.—Huntingdon County, William H. Sears, Huntingdon; Juniata County, Samuel F. Metz, Thompsontown; Mifflin County, F. A. Rupp, Lewistown; Perry County, L. A. Carl, Newport.

Eighth District.—Bedford County, H. A. Shimer, Bedford; Fayette County, C. H. LaClair, Uniontown; Somerset County, W. P. Shaw, Berlin; Westmoreland County, L. B. R. Smith, Jeannette.

Ninth District.—Allegheny County, Henry P. Ashe, Pittsburgh; Greene County, Rufus E. Brock, Waynesburg; Washington County, L. D. Sargent, Washington.

Tenth District.—Beaver County, B. C. Painter, New Brighton; Lawrence County, C. F. McDowell, New Castle; Mercer County, George W. Kennedy, Sharon.

Eleventh District.—W. E. Hyskell, Meadville; Erie County, Orel N. Chaffee, Erie; Warren County, O. S. Brown, Warren.

Twelfth District.—Elk County, John C. McAllister, Ridgway; McKean County, Bret H. Hall, Bradford; Potter County, John H. Page, Austin.

Thirteenth District.—Butler County, W. A. McCall, Butler; Clarion County, Byron W. Walker, West Monterey; Venango County, Jacob P. Strayer, Oil City.

Fourteenth District.—Armstrong County, T. N. McKee, Kittanning; Indiana County, Charles E. Rink, Indiana; Jefferson County, Spencer M. Free, Dubois.

Fifteenth District.—Clinton County, C. L. Fullmer, Renovo; Lycoming County, Edward Lyon, Williamsport; Tioga County, Charles R. Smith, Tioga; Union County, C. H. Dimm, Mifflinburg.

Sixteenth District.—Blair County, Joseph D. Findley, Altoona; Cambria County, H. F. Tomb, Johnstown; Center County, J. L. Seibert, Bellefonte; Clearfield County, G. B. Shivery, Woodland.

Seventeenth District—Bradford County, P. N. Barker, Troy; Sullivan County, Martin E. Herrmann, Dushore; Susquehanna County, William J. Condon, Susquehanna; Wyoming County, William W. Lazarus, Tunkhannock.

Eighteenth District.—Columbia County, J. R. Montgomery, Bloomsburg; Montour County, Horace V. Pike, Danville; Northumberland County, C. M. Thomas, Sunbury; Snyder County, Percival Herman, Selinsgrove.

Nineteenth District.—Carbon County, W. P. Long, Weatherly; Lackawanna County, F. J. Bishop, Scranton; Luzerne County, John E. Scheifly, Kingston; Wayne County, Frederick W. Powell, Honesdale.

Dr. Charles A. E. Codman moved that the Secretary be instructed to cast the ballot of the House for the nominees.

Motion seconded by several and carried.

The Secretary declared the ballot cast and the President declared the gentlemen duly elected.

The President asked the permission of the House to make a slight change in the order of business. This permission being granted, he called for new business at this time.

Dr. Arthur C. Morgan, Philadelphia, presented the following communication:

WHEREAS, The Medical Society of the State of Pennsylvania now holding its annual session in Harrisburg, in which Dr. John Cooke Hirst was to have been an active participant, has been shocked and distressed at his having been taken from us to his eternal reward; be it

Resolved, That we express officially to his family our great sympathy in their bereavement. Our Society has lost one of its most loved and valuable members.

Secretary Donaldson moved that this resolution be adopted by standing vote, without reference to any committee.

Motion seconded and carried.

Dr. John M. Quigley proposed the following amendment to the Constitution:

I move that Article V of the Constitution be amended to read, as follows:

The House of Delegates shall be the legislative body of this Society, and shall be composed of: (1) Delegates designated by the component county medical societies; each component county medical society shall be entitled to send to the House of Delegates each year one delegate for every 100 of its members or fraction thereof. (2) *The Secretaries of the component county medical societies or, in the absence of the secretary, the president of the component county medical society.* (3) The President of this Society, and (4) ex-officio the Trustees, the Secretary and Treasurer, but without the right to vote.

If any component county medical society is without representation at the close of the roll call of the second meeting of any session of the House of Delegates, then the members registered in attendance from that county may select from their number the number of delegates which such county is regularly entitled to elect; if but one member is registered he shall be seated as a representative of that county. When any delegate is once seated, no change may be made during the session. No individual member shall be entitled to more than one vote.

No individual, occupying an ex-officio membership in the House of Delegates, shall be seated as a delegate with vote.

There being no further new business, the President called for the report of the Reference Committee on New Business.

Dr. Samuel P. Mengel, Wilkes-Barre, presented the following report:

REPORT OF REFERENCE COMMITTEE ON NEW BUSINESS

The Reference Committee on New Business has had five items referred to it by the House of Delegates, and begs to report as follows:

First, report on the resolution on the employment of experts in criminal cases: The Committee is heartily in accord with this resolution, believing that such a commission would further the ends of justice in criminal cases, and would, no doubt, be instrumental in largely removing the odium to which the medical profession has been subjected by biased, interested, and highly compensated medical experts.

The committee recommends: (1) That the House of Delegates approve the appointment or creation of a commission of expert psychiatrists to sit and testify in court cases in which the plea of insanity is made. (2) That the study of the question of insanity as a defense in criminal cases be referred to the special Committee on Promotion of Efficient Laws on Insanity, with advice to report their findings and make such recommendations as they may deem advisable to the House of Delegates in 1926.

Dr. Mengel moved the adoption of this section of the report.

Motion seconded and carried.

Second, report on resolutions to abolish income tax on postgraduate study, etc.: The Committee heartily recommends the adoption of both these resolutions.

Dr. Mengel moved the adoption of this section of the report.

Motion seconded by Dr. Morgan and carried.

Third, report on resolution regarding birth control: The Committee is of the opinion that the problem under consideration by the American Birth Control League is not a phase of preventive medicine, and we do not believe it advisable for the Medical Society of the State of Pennsylvania to take any action on this resolution at the present time.

Dr. Mengel moved the adoption of this section of the report.

Motion seconded by Dr. Hunsberger and carried.

Fourth, report on resolution on the continuance of the Medical Legislative Conference and the introduction of a one-board bill: The Committee recommends the adoption of this resolution, with the recommendation that in the presentation of a one-board bill the greatest care be exercised in its preparation, so that if passed by the Legislature it will stand the test of the courts.

Dr. Mengel moved the adoption of this section of the report.

Motion seconded by Dr. Appel and carried.

Fifth, report on the resolution regarding State Board of Medical Education, etc.: Dr. Mengel stated that his committee had received information that the Executive Committee of the National Board of Medical Examiners had met and taken this matter under consideration. The Committee recommended that action on this resolution be postponed.

Dr. Mengel moved the adoption of this section of the report.

Motion seconded and carried.

Dr. Donaldson moved that the report be accepted as a whole.

Motion seconded by several and carried.

Dr. Orlando H. Petty, Philadelphia, presented the following report of the Reference Committee on Reports of Officers and Standing Committees:

REPORT OF REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND STANDING COMMITTEES

The report of the Secretary is exhaustive and encouraging, and we feel his very efficient work in handling the Society's business is to be commended.

Your committee is gratified to note substantial increase in membership over last year. We respectfully urge increasing efforts on the part of the component county societies to increase membership in our own ranks, and also urge their members to affiliate with the American Medical Association.

Your committee heartily endorses the plan that none of our members become associated with lay commercialized health institutes, and firmly believes the family physician is the one not only to make the periodic health examination, but to interpret his findings and give necessary advice.

Believing fully in the necessity of an annual examination, we feel that each member should submit himself and his family to this procedure, thereby accruing the knowledge coming from such findings, and also setting a proper example for his own clientele.

Your committee commends the report of the Treasurer and compliments him on his efficient work.

Your committee endorses unreservedly the Report of the Chairman of Board of Trustees, emphasizing especially their stand on the One-Board Bill.

Your Committee approves the report of each individual Councilor, commending his special activities in behalf of better medicine.

The report of the Acting Editor reflects the efficiency all have noted since he assumed the Acting Editorship.

The report of the Business Manager shows a most successful year.

Your Committee heartily concurs with and commends the report of the Committee on Public Health Legislation. The work of this Committee with the Department of Health in this most important matter shows the proper spirit of coöperation.

Your Committee notes with pleasure the report of the Committee on Public Relations. Its activities have been many and varied. It would be an injustice to attempt to abstract each activity. We recommend careful perusal of the report by all members of the Society.

On report of the Committee on Society Comity and Policy we respectfully urge the adoption by all component societies of a uniform standard of requirements for membership.

We respectfully recommend the following named standards of eligibility to active membership:

1. Graduation from an institution legally authorized to confer the degree of Doctor of Medicine.
2. United States citizenship.
3. Good moral character and professional standing.
4. Usual rules regarding residence.
5. May not be an active member of two component societies of the Medical Society of the State of Pennsylvania.
6. Legal license to practice medicine in Pennsylvania, or if not legally licensed, should be engaged only in teaching, in laboratory or research work, or in the service of the State of Pennsylvania or the United States, or medical missionary in foreign fields.

After conference with the Committee, we respectfully urge that the last clause relating to interns be not adopted.

Your Committee is pleased to note the valuable data being secured by the Committee on Archives, and recommends that each county society submit to this Committee an account of any historical event, thereby making data secured by the Committee more valuable as a matter of permanent record.

It is very gratifying to your Committee that the Committee on Defense of Medical Research had no work referred to them during the year, but believe this Committee should ever be on the alert with offensive as well as defensive propaganda.

Your Committee warmly endorses the very excellent work done by the Committees on Cancer, Promotion of Efficient Laws on Insanity, and Conservation of Vision. We feel strongly that periodic health examinations, by leading to early correction of defects along these lines, will materially lessen the work of these committees in years to come.

(Signed) Orlando H. Petty, *Chairman.*
T. Lamar Williams.

Dr. John P. Harley, Williamsport, moved that the report be accepted.

Motion seconded and unanimously carried.

Dr. Charles A. E. Codman, Philadelphia, reported for the Committee on Place of Meeting as follows:

Mr. President, members of the House of Delegates: As you all know, the Sesqui-Centennial is to be held in Philadelphia next year, and we have an invitation from the Philadelphia County Medical Society to hold our 1926 session in that city. There are several points which the Committee wish to emphasize before we announce our report.

The cost to this Society of its annual meeting approximates five thousand dollars. Conditions in Philadelphia next year will be unusual. The gentlemen who have in the past favored us with their exhibits may be exhibiting at the Sesqui-Centennial and may not wish to have two exhibits. The Philadelphia County Medical Society will have a building of its own and the meetings may be held in that building. The suggestion has been made that instead of having the usual section meetings we have an entirely clinical meeting. This is only a suggestion that can be passed on.

The Committee recommends that the Society accept the invitation of the Philadelphia County Medical Society to meet in Philadelphia in 1926.

Dr. William H. Mayer, Pittsburgh, moved that the report be adopted.

Motion seconded by several and unanimously carried.

DR. ARTHUR C. MORGAN: As President of the Philadelphia County Medical Society, I wish to say, in addition to what Dr. Codman has so well said, that we wish to welcome the members of the State Society in a really human as well as an official way. We hope we will have a large meeting and we will give you all a good time.

Dr. Carey J. Vaux moved that the House of Delegates extend a rising vote of thanks to the Dauphin County Society, the Lancaster County Society, the York County Society, the Lebanon County Society, and the Cumberland County Society for the wonderful way in which they had entertained the State Society this year.

Motion seconded by Dr. Codman and unanimously carried.

Dr. J. Newton Hunsberger, Norristown, presented the following report of the Reference Committee on Scientific Business:

REPORT OF THE REFERENCE COMMITTEE ON SCIENTIFIC BUSINESS

Your Committee recommends the adoption of the report of the Committee on Compensation Laws, and further recommends its continuation for another year, as requested.

Dr. Hunsberger moved adoption of this section of the report.

Motion seconded and carried.

The report of the Committee on the Treatment of Burns is so elaborate and scientific that your Committee can only commend the same and recommend its acceptance. We further recommend its publication in an early issue of the ATLANTIC MEDICAL JOURNAL as a scientific contribution, and that reprints of the same be distributed to all hospitals of the State.

Dr. Hunsberger moved adoption of this section of the report.

Motion seconded and carried.

The report of the Committee to confer with Morticians shows a vast amount of work completed, and much more still to be accomplished before any definite conclusions can be arrived at. Your Committee wishes to commend them on the wide and favorable publicity of the subject which they have received through the various medical journals, and respectfully suggests that they endeavor to foster a stronger interest in physicians themselves, especially hospital interns, endeavoring to obtain autopsies in all possible cases. Your Committee cannot help but believe that inability to secure autopsies is more frequently due to a lack of interest of physicians in autopsy work than of difficulties thrown in their way by undertakers. Your Committee would further suggest that our welfare workers, whose name is legion and whose zeal is unbounded, endeavor to explain to the laity the importance of autopsies. Your Committee notices the desire of the Committee to be continued for another year, and would suggest that this be granted.

Dr. Hunsberger moved the adoption of this section of the report.

Dr. Frank G. Hartman seconded the motion and it was carried.

Your Committee, in reviewing the Report of the Committee on Laboratories, takes notice of the amount of work done, but owing to this committee's inability to arrive at any definite conclusion, is at a loss to find material on which to comment.

Your Committee would, however, respectfully suggest that, in counties or communities where no hospital facilities are available, there be a trained laboratory technician secured, competent to make the minor examinations for acute conditions, such as Widal and sputum examinations, blood counts, throat cultures, and urinalyses, and that any deficiency in the technician's salary (which would mostly come from the fees paid for laboratory work), be made up by money from the State Department of Health. This technician might also act as registrar and health officer in the community where located.

Your Committee suggests that this Committee be granted its request, and be continued another year.

Dr. Hunsberger moved the adoption of this section of the report.

Motion seconded and carried.

We have reviewed the report of the Committee to Confer with Secretaries of Health and Welfare. Your Committee considers this a work of unusual importance, and believes and would respectfully suggest that this Committee be made a permanent commission, whose duty would be to meet the State officials at least semi-annually, and endeavor to obtain more uniform state health laws, with a special effort being made to have quarantine laws of boroughs, cities and state made more uniform.

Your Committee also believes that such meetings would materially enhance the value of the great work of preventive medicine, which is being undertaken by the Department of Health, as well as improve the work done in those State institutions under control of the Department of Welfare.

Dr. Hunsberger moved the adoption of this section of the report.

Seconded by Dr. Quigley and carried.

The report of the Commission to Study Quarantine Laws, Section 3, paragraph 5, states that "the quarantine period for German measles shall be a minimum of 10 days," and that for measles 14 days, instead of 16 days for each, "provided that the quarantine period for these diseases may be reduced to" 8 instead of 10 days.

Your Committee would suggest that the quarantine period for German measles shall be a minimum of 5 instead of 10 days, as suggested, and further ventures to suggest that there be no quarantine at all for German measles except the exclusion of children thus affected from schools and all public gatherings. This does not mean that German measles shall not be reported. Your Committee concurs in the suggestion that the quarantine period for measles shall be 14 instead of 16 days.

Section 3, paragraph 7 of the Report says "the quarantine period for mumps shall be a minimum of" 14 instead of 21 days, as is now the case. Your Committee would suggest that this reduction of the quarantine period for mumps from 21 to 14 days would afford sufficient protection to those not having the disease.

Section 3, paragraph 12 of the Report says "the quarantine period for whooping cough shall be a minimum of three weeks from date of onset," provided that after the second week, and with the permission of the

health authorities, "the patient may be taken upon the streets or highways by a competent person whose responsibility it shall be to prevent contact with individuals other than those of the immediate household." Your Committee heartily agrees with this provision.

It was further recommended that cases of measles, German measles, chickenpox, mumps, or whooping cough be not placarded routinely. Your Committee cannot agree to this, for it believes that if this proviso should be part of our quarantine laws, some unscrupulous persons would undoubtedly take advantage of the same, which might be detrimental to the health of the public. Furthermore, neglect to placard would be an acknowledgment that our long-continued propaganda, as the laity understands it, against the spread of contagious diseases, was a failure, the psychology of which, from the layman's point of view, would require a lot of explaining.

Your Committee also notes that the suggestions made by the Commission to study Quarantine Laws were forwarded to Dr. Miner on December 5, 1924, but to date no action has been taken on them by the Health Department.

Dr. Hunsberger moved the adoption of this section of the report. Motion seconded.

Dr. Charles B. Maits, Pittsburgh: I wish to put in a minority report, with the President's permission. The Committee does not recommend the adoption of the following paragraph: "It was further recommended that cases of measles, German measles, chickenpox, mumps, or whooping cough be not placarded routinely." I should like to urge the adoption of that as it stands, as recommended by the Commission to Study Quarantine Laws, and I would like to ask the appointment of a committee to study that problem and other quarantine problems that may come up, in conference with Dr. Miner of the Department of Health and his Board of Advisers.

I should like to ask discussion of this matter in the House, and move that this minority report be accepted as an amendment to the motion.

Motion seconded.

THE PRESIDENT: Gentlemen, I think at this time it might be well to listen to the remarks of a representative from the State Department of Health, and I take pleasure in introducing to you Dr. J. Moore Campbell, of Harrisburg.

DR. CAMPBELL: It was thought well that some one from the Department should present to the House of Delegates the Department's present attitude with respect to these quarantine periods that have been gone over by Dr. Hunsberger and Dr. Maits of the committee. In regard to lack of action by Dr. Miner and the Board on the reports submitted to them, permit me to say that there have been two or three meetings of the Advisory Board since that report was received, but on all occasions the other matters before the Board have pushed them to the time limit and no action was taken on the report as received.

With respect to the quarantine period and the proposed reductions in these periods, quarantine periods are based on two factors: first, the duration of time during which the patient is likely to be, or known to be infectious; and, second, the length of time necessary for the development of the disease in the susceptible. The two periods of the diseases must be taken into consideration if the quarantine period is to be really practical. In measles, the quarantine period is now 16 days, and it is proposed to reduce this to 14 days. The usual period of incubation is from 9 to 12 days. The few days additional have been added as a margin of safety and therefore the 14-day period instead of the 16-day period as at present established would probably be all right.

Regarding mumps, the quarantine period as at present is not too long. The infective period of mumps is long, some claim that the patients may be infectious for three weeks. If the placard is removed in 16 days or less the second cases will not be caught before they develop. If it is kept on for 21 days, they probably will be.

The duration of the quarantine period in all of these infectious diseases for which changes have been suggested has been worked out in the same way, and the criticism I have made with respect to measles and mumps will apply to the others. As the quarantine regulations stand at present, we think they are just as liberal as they can be if we are to have any period of quarantine. Whether this is to be continued is another question altogether. So long as there is any quarantine at all for these conditions, the present regulations are as liberal as any could be if they are to be effective.

Just a word as to how they work. The adult members of the family are not quarantined in measles, German measles, mumps, chickenpox, or whooping cough. The immune children are under no quarantine. They go where they please. The parents are not quarantined. There is no quarantine whatever except on the patients and the susceptibles in that household, and I think none of us would want to turn loose the susceptibles by releasing quarantine two or three days before the incubation time is up. The quarantine periods have been based on infectivity and the incubation period. They can not be shortened without releasing secondary cases on the community, perhaps two or three days before they are going to come down with the disease.

Also, I wish to say a word about the liberty of the quarantine law. There is nothing in it that quarantines any member of the family except the susceptibles. Children of six or seven years can be returned to school one at a time as they become immune.

With respect to the placarding, Dr. Hunsberger's committee in recommending that the placarding be not abandoned has given the reasons we usually give, and we thoroughly endorse all that Dr. Hunsberger has said with respect to his committee in regard to placarding all of these conditions.

Dr. Charles A. E. Codman asked if the minority report referred this matter back to the committee for another year.

Dr. Maits replied that it was his wish that it be referred to some committee.

DR. CAREY J. VAUX, *Pittsburgh:* The first thing that struck me in this report was the combining of five diseases that I think never should be combined. Measles and whooping cough are serious diseases, while mumps, chickenpox and German measles are not. In the last report from the United States Health Service, whooping cough was held responsible for 8,999 deaths and measles for 10,399. By all means, this Society should take its time in taking its stand on quarantine. We must all go slowly in making changes. We must appreciate that health laws are like any other laws and can not be properly enforced unless public opinion is overwhelmingly in favor of these laws. We should study this question further, in close relationship with the State Department of Health and its Advisory Board.

Dr. Hunsberger accepted Dr. Maits's minority report as an amendment and it was put to a vote and carried.

Dr. Hunsberger's motion that this section of the report be adopted was then put to a vote and carried.

Dr. Donaldson moved that the Committee report be received as a whole, and offered a vote of thanks to all the reference committees for the splendid reports they had presented, which had so greatly facilitated the work of the House.

Motion seconded by several and carried.

THE PRESIDENT: We have with us today a man who comes with authority from a neighboring state society with a message of considerable importance. I wish you to give him your close attention and pay serious consideration to what he has to say.

It gives me pleasure to present to you the Secretary of the Medical Society of New Jersey, Dr. J. B. Morrison.

DR. MORRISON: I assure you it is a pleasure and a high honor to be a delegate here today to present our

congratulations and felicitations to your Society. We feel that a close spirit of coöperation should always exist between these two societies.

I am here at the special request of the Medical Society of New Jersey. The remarks I make will have their bearing on the unfortunate relationships between our two State Boards of Medical Examiners. I wish it distinctly understood that I bear no brief for the State Board of Medical Examiners of New Jersey, and that I am not here to criticize the work of your State Board of Medical Examiners. I am here to state facts.

Your State Board of Medical Examiners, for reasons best known to themselves (and since I have been here I have learned that they are acting under legislative powers), have ruled that only about a dozen of the hospitals in New Jersey will be accepted by them for internship. This was a blow to the hospitals of New Jersey. It seems to me that a condition of this kind cannot exist.

All through history, where great bodies of men in the same work, having the same ideals, come to a halt because of differences, those differences are always ironed out. No board, be it elected or be it appointed, in the State of New Jersey or the State of Pennsylvania, can long throw a bar sinister between the medical professions of these two great commonwealths. There is too much at stake. Our interests run hand in hand. We are subject to criticism, our enemies are on the job all the time, and they take the greatest joy in any little disturbance of this kind and go to the public press with it. You will remember the differences that existed at one time between the component society of the State of New York and the great American Medical Association, but today the State of New York is one of the great ramparts of the American Medical Association. Those differences were ironed out, as ours can be.

I come with a proposition from the Welfare Committee of our Society, offering this solution. We suggest that a committee be formed consisting of two members of our Hospital Standardization Committee, two from yours, two men from our Bureau of Standardization, two from yours, the Attorney-General of Pennsylvania, and the Attorney-General of New Jersey. If these two committees can be got together, the differences between the two boards can be discussed and these differences can be ironed out.

All over America the greatest minds are threshing out questions of whether the present requirements demanded in medical schools are not too great. Now only the sons of affluence can study medicine, for nine years are necessary to complete the course. Shall we increase the burden on those men, or shall we make it lighter? I do not question the standards. I question the ability of those men to carry them if made more onerous. The rural communities are crying out for practitioners of medicine. Let us give them all the advantages we can. I hope a resolution bearing on this matter will be adopted by your House.

Again I say, let us have peace. I thank you, Mr. President, for your courtesy.

THE PRESIDENT: Gentlemen, you have listened to the remarks of the gentleman from New Jersey. Are there any further remarks?

DR. J. NORMAN HENRY: After such a presentation of the subject as has just been made here, a cool, fair-minded presentation, it would be well for some discussion to take place, and perhaps some action by this group. I have not had much time to think it over, but I approve of the suggestion Dr. Morrison made.

I, therefore, move that a communication be sent to the Attorney-General, to the State Board of Medical Education and Licensure, to the American College of Surgeons, and to a body corresponding to the New Jersey Board or Committee on Standardization of Hospitals, requesting that a committee meet with a similar body from New Jersey.

Motion seconded.

This question was discussed by Drs. Codman, Appel, Morgan, Frontz, Delaney, Hunsberger, and Henry, following which Dr. Henry's motion was put to a rising vote and carried.

Dr. Harry W. Albertson moved that the annual assessment remain at $5.00, as in previous years, and that the allotment of funds be left to the Board of Trustees.

Seconded and carried.

Dr. Walter S. Brenholtz presented the *History of the Lycoming County Medical Society* and stated that copies could be secured by sending a check for $8 to the secretary of the Society.

The President requested Dr. Jay B. F. Wyant to come forward, and notified him that he had been reëlected as trustee of the Ninth Councilor District, for five years.

DR. WYANT: Day and night come and go, the seasons pass in regular rotation, but it seems that I go on forever. I have served for ten years and thought that was enough, but I thank you for this special honor you have conferred in electing me for another term of five years. I have tried to do my duty, with the men associated with me, as your Trustees whom you have elected from time to time. During my time, I can recall when we used to have to plead for money to keep things going. Now we can say that we have about $125,000, with our own building in Harrisburg, which I hope you will all visit before you go home.

As this completed the business before the House, on motion duly made and seconded, the House of Delegates adjourned at 12 o'clock *sine die*.

IRA G. SHOEMAKER, *President*,
WALTER F. DONALDSON, *Secretary*.

MEMBERS OF THE HOUSE OF DELEGATES ANSWERING ROLL CALL

Allegheny County Society—William H. Mayer, Pres.; Alexander H. Colwell, James I. Johnston, Harold A. Miller, William H. Guy, George W. McNeil, Ernest W. Willetts, Charles B. Maits, Frederick B. Utley, Carey J. Vaux, G. Clyde Kneedler, James L. Foster, Charles J. Bowen, I. Hope Alexander.

Armstrong County Society—Frederick C. Monks, Kittanning.

Beaver County Society—Milton L. McCandless, Pres.; Jefferson H. Wilson.

Bedford County Society—W. F. Enfield.

Berks County Society—John E. Livingood, Secy.; Irvin H. Hartman, John S. Borneman.

Blair County Society—Harold F. Moffit.

Bradford County Society—John M. Higgins.

Bucks County Society—William C. LeCompte.

Cambria County Society—John W. Barr, Pres.; Edward Pardoe, Horace B. Anderson.

Center County Society—James L. Seibert.

Chester County Society—U. Grant Gifford.

Clearfield County Society—John M. Quigley Secy.; Warren W. Andrews.

Clinton County Society—John B. Critchfield.

Columbia County Society—James R. Montgomery, Pres.; J. W. Bruner.

Crawford County Society—Charles K. Ferer, Pres.

Cumberland County Society—Henry C. Lawton.

Dauphin County Society—George B. Kunkel, Pres.; Park A. Deckard, John F. Culp.

Delaware County Society—Walter E. Egbert, Secy.; C. I. Stiteler.

Elk County Society—Perry O. Hall.

Erie County Society—Elmer Hess, Frank P. McCarthy.

Fayette County Society—Arthur E. Crow.

Franklin County Society—Franklin N. Emmert.

Greene County Society—Harry C. Scott, Secy.

Huntingdon County Society—Charles R. Reiners, Pres.; Cloy G. Brumbaugh.

Indiana County Society—Frank F. Moore.

Jefferson County Society—John H. Murray.

Lackawanna County Society—John J. Brennan, Pres.; Frederick J. Bishop, Aaron S. Cantor, James D. Lewis.

Lancaster County Society—Clarance R. Farmer, Pres.; J. Paul Roebuck, Frank G. Hartman.

Lebanon County Society—J. DeWitt Kerr.

Lehigh County Society—Frederick R. Bausch, David H. Parmet.

Luzerne County Society—Edward W. Bixby, Secy.; Joseph C. Kochcznyski, Samuel P. Mengel, Charles Long.

Lycoming County Society—John P. Harley, Pres.; John A. Campbell, William E. Delaney.

McKean County Society—Homer A. Wilson, Pres.

Mercer County Society—Patrick E. Biggins, Pres.; Edith MacBride.

Mifflin County Society—Bruce P. Steele, Pres.; Samuel H. Rothrock.

Montgomery County Society—Edgar S. Buyers, Secy.; Herbert A. Bostock, J. Newton Hunsberger.

Montour County Society—John H. Sandel, Pres.; Robert A. Keilty.

Northampton County Society—Milton W. Phillips.

Northumberland County Society—George W. Reese.

Philadelphia County Society—Arthur C. Morgan, Pres.; John W. Croskey, Thomas R. Currie, William N. Johnson, Paul B. Cassidy, Christian B. Longenecker, J. Norman Henry, John H. McLean, William B. Scull, Howard D. Geisler, Henry G. Munson, Moses Behrend, J. R. Wells, Seth A. Brumm, F. Hurst Maier, John W. West, C. A. E. Codman, H. Leon Jameson, Orlando H. Petty, George A. Knowles, S. S. Greenbaum, George C. Yeager.

Schuylkill County Society—Arthur B. Fleming, Secy.; T. Lamar Williams, John Rhoades.

Sullivan County Society—Justin L. Christian.

Venango County Society—George B. Jobson.

Warren County Society—Christian J. Frantz.

Washington County Society—Charles C. Cracraft, Secy.; William D. Martin, Clarence Crumrine.

Westmoreland County Society—Charles D. Ambrose, Secy.; R. E. Lee McCormick.

Wyoming County Society—William W. Lazarus.

York County Society—Bernard W. Shirey, Pres.; Alfred A. Long, W. Frank Gemmill.

MINUTES OF THE GENERAL MEETINGS

TUESDAY, OCTOBER 6, 1925

The first General Meeting was held in the Ball Room of the Penn-Harris, Harrisburg, and was called to order at 10:15 a. m., Tuesday, October 6, by the President, Dr. J. Norman Henry, of Philadelphia.

INVOCATION: REVEREND DOCTOR ROBERT BAGNELL (Pastor Grace Methodist Episcopal Church, Harrisburg): Almighty God, cleanse the thoughts of our hearts by the inspiration of Thy Holy Spirit, that we may perfectly love Thee and worthily magnify Thy great and holy Name.

We thank Thee for the call to service which Thou dost give us. We thank Thee for the realization that we have that we cannot serve Thee or serve humanity unless we serve both, and that we cannot serve either God or man unless our hearts are cleansed by the Holy Spirit and unless we do follow the ideals of Jesus Christ. And so we pray that this mind may be in us which was also in Christ Jesus, who, although He was rich, for our sakes became poor, that through His poverty we might be rich indeed.

We thank Thee for this body of men and women who have given themselves to this great and high and holy service of healing. We thank Thee for the great example they have in our Lord Jesus Christ, who went about doing good, and we pray there may come to them a vision of joint service that will result in the betterment of the bodies and souls of humankind. We thank Thee for the advances made in the health of the people of Pennsylvania by the contributions that these men and women have made and are making to the larger knowledge of their profession and of their work, and for the spirit of devotion that is constantly spurring them on to greater service to the sick and suffering.

Bless the session of this great body. Grant that the hours spent together may be profitable both in fellowship and study, and grant that a thrill may go through the profession of the whole State because of the influences set going at this meeting. Bless the officers and all the members. Bless our great State. May it increasingly be a State that shall have the fear of God before the eyes of the people. Bless our Governor; bless the mayors of our cities and the judges of our courts—all who are in authority. Help them to exert the finest influence for good, not only in our own State but in our relations with other states.

Hear us in this our prayer, we ask in the name of Jesus Christ our Lord. Amen.

ADDRESS OF WELCOME: HON. GEORGE A. HOVERTER, (Mayor, City of Harrisburg): Mr. Chairman, Ladies, and Gentlemen: I assure you that I consider it a distinct pleasure and honor to meet with you here this morning, and by so doing to express to you, on behalf of the citizens of Harrisburg, their sincere appreciation of your presence in our city on this occasion. I am very much impressed with the splendid representation you have here today of the most dignified and important and essential profession in any community. I realize that the meetings here will be for the advancement of that profession. I am always in favor of organization. At these meetings there is an opportunity given the different representatives to express to one another their views along medical lines, and there is no doubt in my mind that these things ultimately will result in a great deal of profit to every one of you.

I am not familiar with medical terms. The only part I have ever taken with respect to physicians has been the financial end—I have had considerable experience along that line. But I want to say to you, ladies and gentlemen, in all sincerity, that the citizens of Harrisburg—and I speak also for my colleagues representing this municipality in the administration of its affairs—appreciate your coming to our city.

When our Polyclinic Hospital is completed we shall have here a hospital that will compare with those of any other city in the State of the size of Harrisburg. We also pride ourselves on our sanitary conditions, our extremely well-equipped and operated water supply, our one hundred miles of excellent paved streets—these things to my mind are largely responsible for the health of the people of the community. We have also approximately eleven hundred acres of developed park land, which I believe is second to none, on the per capita basis, compared with other cities of the State. We operate under the commission form of government. These things possibly may not interest you, but I want to say to you that with a budget of one and a half millions for a city of 86,000 population, a tax rate of thirteen mills it seems to me shows that the affairs of the city are administered as economically as possible on behalf of the taxpayers.

In conclusion, I wish to say that our gates are wide open and you are welcome to our city. We have no key to present to you—it has been thrown away long ago. We hope in the future you will come back to Harrisburg, and if you could arrange to meet here every year, that would be agreeable to the citizens of Harrisburg. I thank you for the opportunity to say these few words.

ADDRESS OF WELCOME: DR. GEORGE B. KUNKEL (President Dauphin County Medical Society, on behalf of the Cumberland, Lancaster, Lebanon, York, and Dauphin County Medical Societies): Ladies and Gentlemen, Members of the Medical Society of the State of Pennsylvania: You have just listened to the gracious words of our Mayor, extending to you the courtesies that go with his administration. I hope you will take advantage of our surroundings and that you may be refreshed and made happy by your stay in our city.

On behalf of the Dauphin County Medical Society, and as spokesman for the surrounding counties of Lebanon, Lancaster, York, and Cumberland, it gives me great pleasure to welcome you to the City of Harrisburg. The committees of these various counties have worked diligently, shoulder to shoulder, for months in

trying to make your stay here beneficial and a great pleasure as well.

The ladies have been looked after—their spare time will be occupied with entertainments of various kinds—and we hope to make their stay pleasant.

It gives me great pleasure to welcome you, and I hope you will go away refreshed and with pleasant memories of the City of Harrisburg, and that in the near future you will decide to hold another meeting here. Again I say: Welcome!

PRESENTATION OF PROGRAM: DR. THOMAS G. SIMONTON (Chairman of Committee on Scientific Work): Mr. President: Just a word in regard to the program this year. For seventy-five years we have been going along with no change or variation in our program. After consulting with the Board of Trustees and officers of the Society the Committee on Scientific Work decided this year to try a change in the method of presenting the program—to have an intensive postgraduate course extending over three days. We have been lagging behind in this respect, in comparison with other medical organizations in the country.

The idea is to appoint a man as principal for a fifty-five-minute period, with two associates, giving them a subject and allowing them to develop that subject as they see fit during the period. In each section we are going to use an alarm clock, which will be set to ring five minutes before the end of the hour; then you will have five minutes to relax before the next period begins. I want also to call your attention to the fact that the meetings will start at nine, and at two—not five minutes before or five minutes after the hour; so if you think you can be ten minutes late and still be on time you are mistaken, because the officers of the sections have agreed that the meetings shall start promptly on the hour.

Another thing: section luncheons have been provided this year, with the idea of making this meeting a little more social in its aspect. The section officers are to act as hosts at these luncheons.

We are very much honored to have with us Dr. William D. Haggard, President of the American Medical Association. He has kindly consented to address the meeting this morning, also the Section on Surgery this afternoon, and the Conference of Secretaries tonight. We thank you very much, Dr. Haggard, for the time and energy expended in coming here to help make this meeting a success.

I want to call your special attention to the program for tomorrow morning, when Dr. Royd Ray Sayers and his associates, representing the U. S. Bureau of Mines, will present the subject of "Carbon-Monoxid Poisoning," from the preventive standpoint, and also give a practical demonstration of artificial respiration—what to do and what not to do.

The Roentgen-Ray Society of Central Pennsylvania has requested its members to submit their best x-ray plates, and a committee was appointed to select fifty of the very best to show tomorrow morning. I have had the privilege of seeing these plates, and I know there is a rare treat in store for you.

In the various Sections, members have been asked to present case reports. They have been asked to be concise and give their conclusions within a five-minute-period.

In conclusion, I wish to say that the Committee has worked very hard to develop this program, and we are presenting it to you now for acceptance or rejection.

Dr. Clarence R. Phillips, of Harrisburg, chairman of the Committee on Arrangements, described the various social entertainments provided for members and visitors.

The following greetings were presented by delegates from other societies.

DR. W. BLAIR STEWART (Medical Society of New Jersey): Mr. President, Honored President of the American Medical Association, Members of the Medical Society of the State of Pennsylvania: On behalf of the President and the members of the Medical Society of New Jersey, I bring you greetings and congratulations upon having attained your diamond jubilee. When one looks ahead seventy-five years, it seems like a very long time. This Society probably may be considered an ancient one, when we consider the changes that have been made in medicine and surgery in the past seventy-five years by the men in your own midst who have been in the forefront of the medical profession. We in New Jersey look upon Pennsylvania as a leader in medicine and surgery. We look upon Philadelphia as being the medical center almost of the world, and we look upon Harrisburg as being the ideal city in which to have a good time.

We passed our seventy-fifth anniversary some time ago. We are now in our one hundred and fifty-ninth year. This, we believe, gives New Jersey the distinction of being the oldest medical society in the United States. We bid you welcome to New Jersey and hope you will feel free to attend our meetings.

We trust that this may be not only a Jubilee meeting, but one of the very best meetings you have ever held in the history of your Society.

PRESIDENT C. D. SELBY (Ohio State Medical Association): Friendship is the basis of cordial human relations, the inspiration of sincere and useful service to humanity. It is in this spirit, Mr. President, Ladies and Gentlemen, that I have come across the State of Ohio and almost across Pennsylvania to bring greetings from the Ohio State Medical Association. This is a greater organization in point of numbers, and from the standpoint of accomplishments is doubtless greater than ours; but we in Ohio have no feeling of jealousy, for we are both elements of the great American Medical Association, even as the right and left hands are elements of the human body—each working for a common purpose.

This is your diamond jubilee—a long time—but in the history of the profession merely adolescence. Ohio brings you friendly greetings and hopes you may live to a ripe old age.

DR. HENRI P. LINSZ (West Virginia State Medical Association): Mr. President, Dr. Haggard, Ladies and Gentlemen of the State Medical Society: I feel on seeing Dr. Haggard and a few of the lesser lights of the American Medical Association here that this is a sort of fall convocation of the A. M. A.

I feel it is a privilege to be here with you. I traveled, not across Ohio, but right through West Virginia, and I will leave soon because I am here only so that I may report to my Association that I have visited the Pennsylvania meeting. I wish your Society continued success, and I also wish the members health, happiness, and prosperity. West Virginia sends its heartiest greetings, and personally I hope you may all live long enough to celebrate your centennial anniversary.

DR. AMBROSE HUNSBERGER (Pennsylvania Pharmaceutical Association): Mr. President, Members of the Pennsylvania Medical Society: I deem it a great privilege to have the opportunity of appearing before you again to extend the greetings of a sister organization, one whose work has the same goal, although in achieving that goal we work along different lines. The organization I have the honor to represent here today is the Pennsylvania Pharmaceutical Association, and I bring you, Mr. Chairman, heartfelt greetings from that organization, with the cordial wish that this convention may be one of the most beneficial and instructive that you have held.

I know you have many problems you want to discuss here, and I trust that in dealing with those problems your best thought will be given and that the solution will be satisfactory to you. In connection with that, Mr. Chairman, I want to offer you, on behalf of the members of the Pennsylvania Pharmaceutical Association, in so far as your problems are related to ours, the full coöperation of the members of our organization along all lines in which joint effort may be beneficial to the health of the citizens of our great commonwealth, especially in the solution of the questions in which there would seem to be need for joint effort—those relating to education and legislation.

DR. C. J. HOLLISTER (Pennsylvania State Dental Society): Mr. Chairman, Guests, Ladies, and Gentlemen: I have the honor of being commissioned to represent the State Dental Society at your opening session. It is a great pleasure to do so, and in extending our greetings and congratulations upon attaining your seventy-fifth birthday we want to issue a friendly challenge—that you take up the work with the dental profession of this State and nation in the conservation of health and the prevention of disease through the care of the teeth. I am not going to give you a lecture on the care of the teeth; I simply want to put up to you the obligation that is yours. The dental profession of the whole country at this time is focusing its effort upon the prevention of dental troubles, and we find, on systematic analysis that we do not prevent, that we cannot prevent because we do not see the child until it is eight or nine years old.

It is up to you to prevent dental troubles by giving counsel and advice to have the preschool-age child's teeth attended to regularly and often. It is not necessary to talk to this group about the reasons why you should give that advice. Your profession in its research department has taught the dental profession many things concerning the likelihood of general disease due to focal infection in the mouth. We want to issue a friendly challenge to you to do all in your power to help us in the prevention of dental trouble, particularly among the coming generation. Again I extend greetings.

DR. JOHN A. LICHTY (New York State Medical Association): Mr. President, Dr. Haggard, and Members: I am now a member of the New York State Medical Association and am glad to represent that great body, although I am really not officially a delegate. I was a member of the New York State Society twenty or thirty years ago, then came to Pennsylvania, where I enjoyed twenty-five years of pleasant membership in this Society, and I wish to congratulate you on your program on this your seventy-fifth anniversary. I saw your JOURNAL, and I think it is really a work of art. I congratulate Dr. Simonton on the work he has done.

The New York State Medical Association is at present devoting a great deal of time and money to the prosecution of irregular practitioners, and I hope that this State will continue to coöperate with New York in that effort. I am sure it is something well worth while. I thank you for this opportunity to speak to you.

DR. HOWARD A. FRONTZ (Huntingdon): President Henry, I have a very pleasant duty to perform. You have now served the Medical Society of the State of Pennsylvania for practically two years in an official position—one year as President-Elect. Your second year, as President, has been a very active year, especially as it was a legislative year in this State. Our members are very appreciative of the wonderful work you did in the 1925 Legislature for organized medicine. Much credit is due you for what success we have attained. You have traveled up and down the State, across it, and diagonally, visiting component county societies and other allied organizations, and you have always been ready for the call of duty. I know, personally, the extra labor required of the President of the Pennsylvania State Medical Society.

As a token of appreciation for your wonderful service, Dr. Henry, on behalf of the Medical Society of the State of Pennsylvania, through its Board of Trustees, I wish to present to you this gavel. Please accept it as a mark of their recognition of the unselfish service you have rendered to the Society.

DR. J. NORMAN HENRY (President, The Medical Society of the State of Pennsylvania): Dr. Frontz, I want to thank you for your very kind words and for your message from the Society at large. I will keep this gavel among my treasures as a remembrance of a very busy year, but a very pleasant year, indeed.

My hour has about struck. I will not detain the Society with an address of any kind. It becomes my duty now to turn over my office, and the only words I have to say are words of thanks for the great honor this Society has done me, which I appreciate from the bottom of my heart. I thank you for the honor and for the coöperation that has been given me in my term of office, which has made possible whatever small contribution I have made.

My closing duty is a pleasant one—to hand over to my successor, Dr. Shoemaker, not the gavel which has just been given to me, but this other gavel and with it the authority of office.

DR. IRA G. SHOEMAKER: Mr. Chairman, honored President of the American Medical Association, Fellow Members of the Medical Society of the State of Pennsylvania, and other Guests: It would be quite unnatural were I not appreciative of the very great honor which has been bestowed upon me. In its assumption, I am not unmindful of the many responsibilities which are attached thereto. It shall be my utmost endeavor to discharge the obligations in a conscientious manner, as a service to my profession and a duty to our State.

The presidential address of Dr. Shoemaker was published in the October, 1925, ATLANTIC MEDICAL JOURNAL.

The address of President Haggard, of the American Medical Association, is published in this issue of the JOURNAL.

Adjournment.

J. NORMAN HENRY, *President,*
WALTER F. DONALDSON, *Secretary.*

WEDNESDAY, OCTOBER 7, 1925

The Wednesday-morning meeting was called to order promptly at nine o'clock, Dr. Thomas G. Simonton, of Pittsburgh, presiding.

Dr. Royd Ray Sayers, Washington, D. C., Chief Surgeon, U. S. Bureau of Mines, Surgeon U. S. Public Health Service, read a paper entitled "Carbon-Monoxid Poisoning," occupying the entire period from 9:00 to 9:55.

On motion of Dr. Judson Daland, duly seconded, a rising vote of thanks was tendered Dr. Sayers for his presentation.

The period from 10:00 to 10:55 was occupied by a lantern demonstration presented by the Roentgen-Ray Society of Central Pennsylvania.

In the period from 11:00 to 11:55 the following case reports were presented:

Mediastinal Tumor (Lantern Demonstration), Dr. Frederick B. Utley, Pittsburgh.

Diaphragmatic Hernia in a Young Athlete (Lantern Demonstration), Dr. William S. Newcomet, Philadelphia.

Spasm in the Middle of the Esophagus (Lantern Demonstration), Dr. George W. Grier, Pittsburgh.

Prolapse of Uterus Through a Ring Pessary, with Strangulation (Exhibition of pictures), Dr. Harry A. Duncan, Philadelphia.

Subacute Pancreatitis, with Cyst and Cholelithiasis, Dr. Jesse L. Lenker, Harrisburg.

Hematocolpos, Causing Retention of Urine, Mistaken for an Acute Abdominal Condition of Appendiceal Origin (Lantern Demonstration), Dr. Frank C. Hammond, Philadelphia.

Lymphosarcoma Involving the Breasts (Lantern Demonstration), Dr. Howard G. Schleiter, Pittsburgh.

Case of a Hermaphrodite, Dr. James A. Betts, Easton.

These case reports were discussed by Drs. Charles Long, Wilkes-Barre, and John M. Fisher, Philadelphia.

The period from 12:00 to 12:55 was occupied by Dr. John E. Talbot, Worcester, Massachusetts, who read a paper on "Toxemias of Pregnancy" (Lantern Demonstration).

On motion of Dr. Harold A. Miller, Pittsburgh, a rising vote of thanks was tendered Dr. Talbot for his very excellent and comprehensive paper, following which the meeting adjourned.

THOMAS G. SIMONTON, *Chairman,*
C. B. LONGENECKER, *Secretary.*

THURSDAY, OCTOBER 8, 1925

The Thursday-afternoon meeting was called to order at two o'clock, the President, Dr. Ira G. Shoemaker, presiding. There were approximately 300 in attendance at this closing meeting.

In the period from 2:00 to 2:55 the following Symposium on Therapeutics was presented:

The Present Therapeutic Value of X-Rays, Radium and Electrocoagulation (Lantern Demonstration), Dr. George E. Pfahler, Philadelphia.

A Summary of the Present Status of the Biologic Therapy of Disease (Lantern Demonstration), Dr. John A. Kolmer, Philadelphia.

Dietetic Treatment of Diabetes, Obesity, and Nephritis (Lantern Demonstration), Dr. Henry D. Jump, Philadelphia.

This symposium was discussed by Dr. George M. Dorrance, Philadelphia, and the discussion closed by Dr. Pfahler.

The period from 3:00 to 3:55 was occupied by the presentation of "Valuation of the Physical Factors of the Psychoneurosis; Diagnosis and Treatment" (Lantern Demonstration), by Dr. D. J. McCarthy, Pittsburgh, Principal, and Drs. George W. Wright, Pittsburgh; George M. Dorrance, Philadelphia; and George Wilson, Philadelphia, Associates.

The period from 4:00 to 4:55 was occupied by a presentation of "Hematuria" (Lantern Demonstration), by Dr. Hugh Young, Clinical Professor of Urology, Johns Hopkins University, Baltimore.

On motion of Dr. Thomas G. Simonton, duly seconded, a rising vote of thanks was tendered Dr. Young for his kindness in coming to make this presentation.

The General Meeting adjourned *sine die*.

IRA G. SHOEMAKER, *President*,
C. B. LONGENECKER, *Secretary*.

MINUTES OF THE SECTION ON MEDICINE

TUESDAY, OCTOBER 6, 1925

The Section on Medicine convened at two p. m. in the Chamber of the House of Representatives, Capitol Building, Harrisburg, Dr. Roy R. Snowden, presiding.

CHAIRMAN SNOWDEN: The Medical Section will please come to order. As you have seen from the program, we are trying out a new method of conducting these meetings. The program is divided into symposiums of selected groups responsible for one hour, and the individual papers are limited to a specified time. In order that this schedule may be conducted without any hitch, it is imperative that the meetings begin at the time specified, and that the papers do not run over the time set. There will be a bell to warn the speaker that he has one minute of time remaining and an alarm clock will ring when his time is up. We shall begin today promptly at two o'clock.

I feel that I must make an explanation for the poor lighting and heating we have today. There was a serious accident in the boiler room a few days ago, which crippled the heating and lighting facilities in the building. In fact, I believe they are at present using the city current, and as a result, we are very much limited in the amount of current available, and we shall have to get along as best we can.

In the symposium on Pulmonary Tuberculosis, the following papers were read: "Causes of the Decline of Pulmonary Tuberculosis," by Dr. Charles H. Marcy, Pittsburgh; "Surgical Treatment of Pulmonary Tuberculosis," by Dr. George P. Muller, Philadelphia; and "Family Tendency in Tuberculosis," by Dr. H. T. Brown, Pittsburgh. The latter paper was read in place of a paper on "The Use of Artificial Light in the Treatment of Pulmonary Tuberculosis," by Dr. William Devitt, Allenwood, who was unable to be present.

There was no discussion of these papers.

In the symposium on the Diagnosis of Nontuberculous Pulmonary Lesions, the following papers were read: "The Clinical Aspects of Nontuberculous Lesions," by Dr. E. H. Funk, Philadelphia; "The X-Ray Aspects of Nontuberculous Pulmonary Lesions," by Dr. Willis F. Manges, Philadelphia; and "The Bronchoscopic Aspects of Nontuberculous Pulmonary Lesions," by Dr. Louis H. Clerf, Philadelphia.

There was no discussion of these papers.

In the symposium on Hypotension, the following papers were read: "The Significance or Lack of Significance of Arterial Hypotension in Clinical Diagnosis," by Dr. Alfred Stengel, Philadelphia: "The Importance of the Respiratory Apparatus in Hypotension," by Dr. Joseph H. Barach, Pittsburgh; and "Treatment of Hypotension," by Dr. T. Grier Miller, of Philadelphia.

There was no discussion of these papers.

The Section adjourned.

WEDNESDAY, OCTOBER 7, 1925

The Section on Medicine convened at two p. m. in the Chamber of the House of Representatives, Capitol Building, Dr. Roy R. Snowden, presiding.

In the first symposium on Recent Innovations in Diagnosis, the following papers were read: "The Present Status of Functional Tests of the Liver," by Dr. William J. Fetter, Pittsburgh; "The Value of X-Ray in the Diagnosis of Gall-Bladder and Liver Diseases," by Dr. George W. Grier, Pittsburgh; and "The Significance of Bile Pigments," which was read for Dr. W. W. G. Maclachlan, Pittsburgh, by Dr. J. I. Johnston, the former having been detained by a severe and sudden illness.

There was no discussion of these papers.

The Executive Committee reported that Dr. O. H. Perry Pepper, Philadelphia, had been nominated for Chairman of the Section for 1926, and Dr. W. W. G. Maclachlan, Pittsburgh, for Secretary. Upon motion, which was duly seconded and carried, Dr. Pepper and Dr. Maclachlan were unanimously elected.

In the symposium on Recent Innovations in Treatment, papers were read as follows: "General Tendencies on Modern Treatment," by Dr. B. A. Cohoe, Pittsburgh; "Ephedrin and Other Drugs of China," by Dr. Carl F. Schmidt, Philadelphia (by invitation); "The Treatment of Purpura Hemorrhagica," by Dr. Thomas Fitz-Hugh, Philadelphia; and "The Treatment of Secondary Anemia," by Dr. T. T. Sheppard, Pittsburgh.

There was no discussion of these papers.

CHAIRMAN SNOWDEN: We feel that this is an opportune time to find out whether you think the innovation in conducting these programs is beneficial; that is, the rigid limitation on the speakers, limiting them to a certain set time; and the practical elimination of discussion. It has been requested that the Chairman ascertain how the session appeals to the members.

A standing vote showed the majority to be in favor of time limitation of papers, and the minority to be in favor of elimination of open discussion.

The last hour of the session was devoted to a paper on "Spirachetal Infections of Man," by Dr. Richard P. Strong (by invitation) of the Harvard University Medical School.

There was no discussion of this paper.

THURSDAY, OCTOBER 8, 1925

The Section on Medicine convened at nine-fifteen a. m. in the Chamber of the House of Representatives, Capitol Building, Dr. Roy R. Snowden presiding.

In the symposium on Chemistry and Internal Medicine, the following papers were read: "The Increasing Importance of Chemistry in Internal Medicine," by Dr. James H. Austin, Philadelphia; "The Relation of Chlorid in the Body to Disease of the Gastro-Intestinal Tract," by Dr. Edward Rose, Philadelphia; and "The Anoxemia of Carbon-Monoxid Poisoning and Its Treatment," by Dr. William C. Stadie, Philadelphia.

There was no discussion of these papers.

In the symposium on the Influence of Congenital and Hereditary Factors in Diseases of Adults, the following papers were read: "A Consideration of Congenital Heart Disease," by Dr. Edward Weiss, Philadelphia; "Congenital and Hereditary Factors in Arterial and Renal Disease," by Simon S. Leopold, Philadelphia; and "The Relationship of Congenital Factors to Lesions of the Thyroid Gland," by Dr. John R. Paul, Philadelphia.

There was no discussion of these papers.

The following five-minute case reports were presented: 1. Diabetes in Eight Members of a Family, with Six Deaths in Coma, by Dr. Richard A. Kern, Philadelphia; 2. Diabetic Coma, Five Days, with Gangrene of Foot, Treated Intensively with Insulin, by Dr. Clarence R. Phillips, Harrisburg; 3. Recurring Auricular Fibrillation, Rationed on Quinidin Sulphate, by James E. Talley, Philadelphia; 4. Syphilitic Cirrhosis of the Liver, by Dr. Adam J. Simpson, Chester; 5. Pellagra in Pennsylvania, by Dr. Carl E. Ervin, of Danville; 6. Hemochromatosis, by Dr. C. C. Hartman, Pittsburgh; 7. A Radical Cure of Simple Obesity, by Dr. Frank A. Evans, Pittsburgh; and 8. Infectious Mononucleosis, by Dr. C. W. W. Elkin, Pittsburgh.

CHAIRMAN SNOWDEN: The final ten minutes of this particular hour has been set aside for the Pennsylvania State Department of Health. Dr. J. Moore Campbell will take up the question of "Smallpox." If Dr. Campbell is not present, is there any other representative of the State Department of Health here to present his paper? It has always been the custom to set aside a certain amount of time for the Department in order that they may present any particular problems they may have to cope with. I am sorry to announce that on account of an emergency, Dr. Campbell is unable to be here to present his paper for the State Department of Health.

The final hour of the session was occupied by Dr. George Draper, of Columbia University, who presented a paper on "Constitution and Disease."

There was no discussion of this paper.

The Section adjourned.

ROY R. SNOWDEN, *Chairman,*
O. H. PERRY PEPPER, *Secretary.*

MEMBERS REGISTERED SECTION ON MEDICINE

Adams County Society—W. E. Wolff, Arendtsville; J. P. Dalbey, H. M. Hartman, E. A. Miller, Gettysburg; H. E. Gettier, Littlestown; J. L. Sheetz, New Oxford.

Allegheny County Society—W. J. McGeary, Allison Park; J. C. Nicholls, Braddock; I. H. Alexander, L. F. Ankrim, J. H. Barach, C. J. Bowen, H. E. Clark, A. H. Colwell, I. S. Diller, C. W. W. Elkin, K. Emmerling, W. J. Fetter, G. W. Grier, E. P. Griffiths, H. E. Halferty, C. C. Hartman, J. I. Johnston, A. L. Lewin, L. Litchfield, W. McCracken, E. B. McCready, G. W. McNeil, C. B. Maits, C. H. Marcy, W. H. Mayer, M. Goldsmith, H. G. Schleiter, H. A. Shaw, T. T. Sheppard, T. G. Simonton, R. R. Snowden, F. B. Utley, C. J. Vaux, E. W. Willetts, V. A. Williams, Pittsburgh; S. E. Lambert, J. W. Mitchell, Sewickley; H. W. Morrow, Swissvale; J. A. Weaver, Tarentum; J. F. Hunter, Turtle Creek.

Armstrong County Society—C. M. McLaughlin, Freeport; F. C. Monks, J. B. F. Wyant, Kittanning.

Beaver County Society—G. J. Boyd, Beaver Falls; M. L. McCandless, Rochester.

Bedford County Society—W. F. Enfield, W. C. Miller, N. A. Timmins, Bedford.

Berks County Society—W. H. Ammarell, Birdsboro; J. S. Borneman, Boyertown; H. A. Gorman, G. F. Potteiger, Hamburg; J. L. Bower, Philadelphia; C. W. Bachman, W. S. Bertolet, L. W. Frederick, I. H. Hartman, W. F. Krick, H. U. Miller, C. S. Reber, I. G. Shoemaker, Reading; L. R. Rothermel, Shillington; G. G. Wenrich, Wernersville; J. H. Horne, L. J. Livingood, Womelsdorf; C. E. Lerch, Wyomissing.

Blair County Society—D. Kaufman, A. S. Kech, A. S. Oburn, C. E. Robinson, Altoona; T. L. Wilson, Bellwood; D. C. Confer, Duncansville; B. Alder, Hollidaysburg.

Bradford County Society—S. D. Conklin, Sayre; P. H. Schwartz, Towanda.

Bucks County Society—A. F. Myers, Blooming Glen.

Butler County Society—W. R. Hockenberry, Slippery Rock.

Cambria County Society—G. R. Anderson, E. T. Ealy, Barnesboro; H. T. Prideaux, T. H. A. Stites, Cresson; W. A. Prideaux, Expedit; H. B. Anderson, J. J. Meyer, W. G. Turnbull, Johnstown; S. D. Boucher, W. S. Dougherty, Portage; E. Pardoe, South Fork.

Carbon County Society—J. A. Trexler, Lehighton.

Center County Society—J. L. Seibert, Bellefonte; O. W. McEntire, Howard; G. S. Frank, E. M. Miller, Millheim.

Chester County Society—T. G. Aiken, D. H. Williams, Berwyn; W. W. Betts, Chadds Ford; H. F. C. Heagey, Cochranville; U. G. Gifford, Kennett Square; C. S. Kurtz, Malvern; J. T. Taylor, Pomeroy; W. T. Sharpless, West Chester.

Clearfield County Society—W. G. Falconer, J. P. Frantz, J. M. Quigley, W. E. Reiley, Clearfield; H. A. Blair, Curwensville; L. Zinsmeister, Harrisburg; G. B. Kirk, Kylertown; G. A. Ricketts, Osceola Mills.

Clinton County Society—J. B. Critchfield, Lock Haven.

Columbia County Society—C. B. Yost, Bloomsburg; J. W. Gordner, Jerseytown.

Cumberland County Society—H. C. Lawton, Camp Hill; S. S. Cowell, C. R. Rickenbaugh, Carlisle; J. E. Beale, J. W. Bowman, Lemoyne; N. W. Hershner, Mechanicsburg; D. B. Coover, J. F. Good, New Cumberland; A. Peffer, O. P. Storey, Newville; S. D. Sutliff, Shippensburg; S. I. Cadwallader, West Fairview.

Dauphin County Society—L. W. Frasier, Camp Hill; A. F. Akers, G. L. Brown, G. C. Crist, J. E. Dickinson, J. W. Ellenberger, M. W. Emrick, V. H. Fager, D. S. Funk, L. K. Graber, E. M. Green, S. F. Hassler, D. J. Hetrick, W. T. James, H. E. Klase, J. H. Kreider, M. H. Layton, J. L. Lenker, J. B. McAlister, A. L. Marshall, J. W. McMullen, H. McGowan, G. R. Moffitt, E. C. Neely, R. L. Perkins, C. R. Phillips, J. H. Rahter, J. M. J. Raunick, F. F. D. Reckord, C. M. Rickert, R. F. L. Ridgway, L. E. Shaw, C. C. Stauffer, M. I. Stein, L. H. Taylor, Harrisburg; J. L. Zimmerman, Hershey; W. J. Albright, Highspire; J. W. Horn, M. L. Nissley, Hummelstown; J. E. Bogar, D. E. Hottenstein, M. Ulrich, Millersburg; S. A. Kirkpatrick, New Cumberland; J. K. Wagenseller, Philadelphia; M. O. Putt, Oberlin; W. P. Dailey, B. B. Jeffers, O. J. Kingsbury, M. C. Kocevar, H. C. Myers, Steelton.

Delaware County Society—W. E. Egbert, A. J. Simpson, Chester.

Erie County Society—B. S. Putts, Erie.

Fayette County Society—E. B. Edie, G. H. Hess, Uniontown.

Franklin County Society—J. K. Gordon, Chambersburg; J. W. Prather, Mont Alto; A. Stewart, Shippensburg; C. C. Custer, South Mountain; J. W. Croft, S. B. Thomas, Waynesboro; J. H. Swan, St. Thomas.

Huntingdon County Society—J. M. Beck, Alexandria; G. G. Harman, Huntingdon; H. C. Wilson, Warrior's Mark.

Indiana County Society—M. M. Davis, Indiana; H. D. Hotham, Saltsburg.

Jefferson County Society—J. H. Murray, Punxsutawney.

Juniata County Society—R. M. Quigg, East Waterford; I. G. Headings, McAllisterville; R. P. Banks, Mifflintown.

Lackawanna County Society—J. W. Grant, Dickson City; W. H. Conway, J. J. O'Connor, J. J. Price, Olyphant; J. J. Brennan, A. S. Cantor, G. A. Clark, P. J. Davies, A. E. Davis, W. T. Davis, C. Falkowsky, L. M. Gates, J. D. Lewis, J. C. Reifsnyder, Scranton.

Lancaster County Society—H. S. Zeimer, Adamstown; J. C. Stever, Bainbridge; V. Treichler, Elizabethtown; J. F. Mentzer, Ephrata; J. E. Hostetter, Gap; F. Alleman, W. K. Baer, H. G. Barsumian, W. D. Blankenship, T. O. Garvey, F. G. Hartman, H. C. Kinzer, R. N. Klemmer, H. D. Leh, E. I. Noble, J. M. Shartle, S. S. Simons, J. J. Sullivan, Lancaster; J. T. Herr, Landisville; J. P. Zeigler, Mount Joy.

Lebanon County Society—W. H. Brubaker, J. J. Bucher, L. R. Light, A. W. Shultz, F. B. Witmer, Lebanon; J. H. Bryner, Quentin.

Lehigh County Society—W. F. Herbst, Allentown.

Luzerne County Society—L. S. Luppold, Freeland; P. E. Fagan, C. F. Hanlon, J. C. Kochcznyski, Hazleton; H. L. Whitney, Plymouth; W. F. Davison, Kingston; A. Armstrong, White Haven; W. J. Davis, J. T. Howell, C. Long, A. B. Musa, Wilkes-Barre.

Lycoming County Society—J. M. Corson, Hughesville; G. C. Davis, L. R. Ranck, Milton; A. P. Hull, Montgomery; F. C. Lechner, Montoursville; J. W. Albright, Muncy; I. T. Gilmore, Picture Rocks; J. L. Mansuy, Ralston; C. E. Allison, W. S. Brenholtz, G. R. Drick, W. E. Glosser, L. M. Hoffman, C. H. Senn, C. E. Shaw, Williamsport.

Mercer County Society—W. W. Richardson, Mercer.

Mifflin County Society—J. S. Brown, J. A. C. Clarkson, R. M. Krepps, S. W. Swigart, Lewistown; B. P. Steele, McVeytown; S. H. Rothrock, C. J. Stambaugh, Reedsville.

Montgomery County Society—J. Q. Thomas, Conshohocken; A. L. Dewees, Haverford; E. S. Buyers, B. F. Hubley, J. N. Hunsberger, J. G. Wilson, Norristown; W. J. Wright, Skippack.

Montour County Society—C. E. Ervin, J. A. Jackson, R. A. Kelty, H. V. Pike, C. Shultz, Danville; C. S. Tomlinson, Milton; C. L. Johnston, Numidia; B. E. Bitler, Potts Grove.

Northampton County Society—F. J. Dever, Bethlehem; M. W. Phillips, Chapman Quarries; A. S. Fox, E. M. Green, C. Gaines, V. J. Messinger, K. D. Miesse, F. C. Roberts, Easton; E. J. Deibert, W. W. Rentzheimer, Hellertown.

Northumberland County Society—T. J. Tiffany, Berrysburg; A. B. Buczko, Mt. Carmel; J. J. Donohue, H. T. Simmonds, J. G. Strickland, Shamokin; H. W. Gass, Sunbury.

Perry County Society—G. M. Bogar, Liverpool; J. E. Book, L. A. Carl, Newport.

Philadelphia County Society—J. H. Arnett, E. J. G. Beardsley, H. Beates, Jr., R. S. Boles, G. J. Chandlee, C. A. E. Codman, J. Daland, R. S. Dorsett, J. Eiman, E. H. Erney, T. Fitz-Hugh, E. H. Funk, H. D. Geisler, S. P. Gerhard, R. M. Goepp, J. N. Henry, H. L. Jameson, W. M. Johnson, H. D. Jump, R. A. Kern, P. P. Klopp, G. A. Knowles, J. A. Kolmer, F. E. Kraker, E. B. Krumbhaar, C. A. LeCates, J. D. McLean, T. M. McMillan, T. G. Miller, H. K. Mohler, A. C. Morgan, J. D. Paul, O. H. P. Pepper, O. Petty, E. C. Potter, E. G. Rhoads, W. E. Robertson, W. D. Robinson, B. F. Royer, A. I. Rubenstone, J. Sailer, M. Schwartz, W. B. Scull, H. W. Shmookler, S. C. Smith, M. Solis-Cohen, M. M. Spear, A. Stengel, W. D. Stroud, J. A. Sweeney, J. E. Talley, E. Weiss, J. W. West, G. Wilson, G. C. Yeager, Philadelphia.

Potter County Society—C. W. Kilgaard, Galeton.

Schuylkill County Society—T. J. McGurl, Minersville; G. F. Bretz, J. G. Kramer, J. S. Carpenter, H. H. Stewart, Pottsville; J. Rhoads, Ringtown; A. B. Fleming, Tamaqua.

Snyder County Society—J. O. Wagner, Beaver Springs; M. E. Wagner, P. E. Whiffen, McClure.

Somerset County Society—F. B. Shaffer, Somerset; G. C. Berkheimer, Windber.

Sullivan County Society—J. L. Christian, Harrisburg.

Susquehanna County Society—A. J. Taylor, Hop Bottom; H. M. Fry, Rush.

Union County Society—E. T. Shields, Harrisburg; O. W. H. Glover, Laurelton; J. W. Arbogast, Lewisburg.

Venango County Society—J. M. Murdock, Polk.

Warren County Society—H. W. Mitchell, Warren.

Washington County Society—S. A. Kamerer, Cokeburg; W. D. Martin, Dunn's Station; L. W. Braden, Ten Mile; C. A. Crumrine, Washington.

Westmoreland County Society—R. E. L. McCormick, Irwin; C. D. Ambrose, Ligonier; C. R. McKinniss, Torrance.

Wyoming County Society—W. W. Lazarus, Tunkhannock.

York County Society—C. W. Frey, J. T. Harbold, F. A. Lawson, Dallastown; C. J. Hamme, Dover; E. W. Stick, J. S. Ziegler, Hanover; H. C. Hetrick, Lewisberry; B. A. Hoover, Wrightsville; G. W. Bowles, M. H. Cohen, C. W. Eisenhower, J. Gilbert, G. E. Holtzapple, C. H. May, J. C. May, P. A. Noll, C. Rea, P. Spaeder, W. S. Weakley, York.

MINUTES OF THE SECTION ON SURGERY

TUESDAY, OCTOBER 6, 1925

The Chairman, Dr. Harold L. Foss, Danville, called the meeting to order at 2 p. m. in the Ball Room of the Penn-Harris, Harrisburg, Pa.

The first period of the afternoon program consisted of a "Symposium on Neurological Surgery."

Dr. Walter Timme, New York, read a paper entitled "The Rôle Played by Glandular Feeding in the Treatment of Pituitary Disorders, with Special Reference to Those Cases With Enlargement of the Sella Turcica and Pressure Phenomena, Including Headache and Visual Disturbance," with lantern-slide illustrations.

Dr. Francis C. Grant, Philadelphia, read a paper entitled "The Rôle Played by Radiotherapy in the Treatment of Pituitary Disorder, with Special Reference to Those Cases with Glandular Symptoms and Pressure Effects."

Dr. Charles H. Frazier, Philadelphia, read a paper entitled "Limitations of Surgery in the Treatment of Lesions of the Pituitary Body," with lantern demonstration.

There was no discussion of these papers.

The second period consisted of a "Symposium on Uterine Bleeding."

Dr. B. Z. Cashman, Pittsburgh, read a paper entitled "Adolescent Hemorrhage."

Dr. Edward A. Schumann, Philadelphia, read a paper entitled "Hemorrhage Due to Accidents of Pregnancy."

Dr. Charles C. Norris, Philadelphia, read a paper entitled "Hemorrhage from Cancer and Postmenopause Bleeding."

Dr. Sidney A. Chalfant, Pittsburgh, read a paper entitled "Hemorrhage of Advanced Menstrual Life, not due to Malignancy."

Dr. Frank C. Hammond and Dr. F. Hurst Maier discussed these papers. Dr. Chalfant closed the discussion.

The third period was devoted to a paper read by Dr. William D. Haggard, Nashville, Tenn., President, American Medical Association, entitled, "Gastric Surgery as Observed in Some of the European Clinics."

A general discussion was participated in by Dr. Moses Behrend, Philadelphia and Dr. D. Clinton Guthrie, Philadelphia. There was no closing discussion.

Adjourned 4:45 p. m.

WEDNESDAY, OCTOBER 7, 1925

The Chairman, Dr. Harold L. Foss, Danville, called the meeting to order at 2:00 p. m.

The following officers were elected to serve for the coming year: Chairman, Dr. James H. Baldwin, Philadelphia; Secretary, Dr. Albert F. Hardt, Williamsport.

The first period of this second session was devoted to a "Symposium on Orthopedic Surgery." The following papers were read: "The Prevention of Deformity" by Dr. John H. Galbraith, Altoona; "The Correction of Deformity of Neck and Back (Lantern Demonstration)" by Dr. Arthur G. Davis, Erie; "The Correction of Deformity of the Upper Extremity" by Dr. Carl C. Yount, Pittsburgh; "The Correction of Deformity of the Lower Extremity" by Dr. DeForest P. Willard, Philadelphia.

Dr. David Silver, Pittsburgh, was the Principal of this Symposium, but was not present at the meeting.

There was no discussion.

The second period of the session was devoted to a "Symposium on General Surgery in Children." The following papers were read: "Pyloric Stenosis" by Dr. Henry P. Brown, Associate, Philadelphia; "Intussusception" by Dr. Robert M. Entwisle, Associate, Pittsburgh; "Empyema in Children" by Dr. Emory G. Alexander, Associate, Philadelphia.

Dr. E. B. Hodge, Philadelphia, was the Principal of this symposium.

The following participated in the general discussion of this symposium: Dr. John J. Gilbride, Philadelphia; Dr. Willis F. Manges, Philadelphia; Dr. W. Frank Gemmill, York; Dr. Samuel J. Waterworth, Clearfield; Dr. John L. Atlee, Lancaster. Dr. Alexander closed the discussion.

The third period was devoted to a "Symposium on Surgery of the Breast." The following papers were read: "Cancer in the Lactating Breast" by Dr. Edward J. Klopp, Associate, Philadelphia; "Surgery in Acute Breast Infections" by Dr. Arthur E. Billings;" "Pathological Consideration" (In the absence of Dr. Baxter L. Crawford, Philadelphia, due to illness, this subject was presented by Dr. Robert A. Keilty, Danville); "X-Ray Treatment of Inoperable Cases and Postoperative Treatment" by Dr. Willis F. Manges, Associate, Philadelphia; "Diagnosis and Treatment of Benign Tumors of the Breast" by Dr. John H. Gibbon, Principal, Philadelphia.

There was no discussion of these papers.

Adjourned at 4:55 p. m.

THURSDAY, OCTOBER 8, 1925

The Chairman, Dr. Harold L. Foss, Danville, called the meeting to order at 9:00 a. m.

The first period of this, the third session, was devoted to a "Symposium on Surgery of the Biliary System." The following papers were read:

"Indications for Cholecystostomy and Cholecystenterostomy" by Dr. Donald Cuthrie, Principal, Sayre; "Recent Changes in Conception of Various Clinical Types of Jaundice" by Dr. Edward B. Krumbhaar, Associate, Philadelphia; "Surgical Management of the Jaundiced Patient" by Dr. Samuel J. Waterworth, Associate, Clearfield; "Symptomatology of Cholecystitis" by Dr. Francis J. Dever, Associate, Bethlehem; "Technic of the Operation of Cholecystectomy and Some of its Dangers" by Dr. Harvey F. Smith, Associate, Harrisburg; "End Results of Biliary Surgery as Seen by the Medical Man" by Dr. Lawrence Litchfield, Associate, Pittsburgh.

The following participated in the general discussion of this symposium: Dr. John J. Gilbride, Philadelphia and Dr. Russell S. Boles, Philadelphia. There was no closing discussion.

The second period of this session was devoted to a "Symposium on Fractures." The following papers were read: "The Early Treatment of Fractures" by Dr. Eldredge L. Eliason, Associate, Philadelphia; "Compound Fractures" by Dr. J. Huber Wagner, Associate, Pittsburgh; "Factors Other than Mechanical that Influence the Union of Fractures" by Dr. W. L. Estes, Jr., Principal, Bethlehem.

This symposium was discussed by Drs. J. P. Jopson, Philadelphia, and Dr. John B. Lowman, Johnstown.

The third period of this session was devoted to the following case reports: "Repeated Cesarean Section for Septate Uterus" by Dr. Alice Weld Tallant, Philadelphia; "Intestinal Obstruction from Gall Stones" by Dr. N. P. Davis, Pittsburgh; "Traumatic Diaphragmatic Hernia" by Dr. Lever F. Stewart, Clearfield; "Massive Intersigmoid Hernia" by Dr. Frank T. McCarthy, Erie; "Pancreatic Cyst" by Dr. Merle R. Hoon, Pittsburgh; "Unilateral Fused Kidney with Vesico-Uterine Fistula" by Dr. Elmer Hess, Erie; "Striking Result from Intravenous Use of Mercurochrome" by Dr. J. D. Denny, Columbia; "Perforated Ulcer of Duodenum with Duodenal Fistula" by Dr. J. H. Alexander, Pittsburgh.

Unusual cases were presented by the following: Dr. Herbert B. Gibby, Wilkes-Barre; Dr. W. L. Estes, Jr., Bethlehem; Dr. Charles Long, Wilkes-Barre.

Chairman Foss requested an expression of opinion as to the preference of the Section with respect to the future conduct of meetings, referring to the methods of the British Medical Association, the methods employed in the past by this Society and the method being used in the present session. The almost unanimous opinion was that the method employed during the present sessions should be continued in the future.

On motion, duly seconded and carried, a vote of thanks was extended to Dr. Thomas G. Simonton, Pittsburgh, for his efforts in perfecting the system as at present employed.

The fourth period of this session was devoted entirely to an address by Dr. William J. Mayo, Rochester, Minn., on "The Surgical Significance of Certain Biochemical Phenomena." Dr. Mayo appeared before the Section by invitation.

Adjourned at 12:50 p. m.

HAROLD L. FOSS, *Chairman,*
EVAN W. MEREDITH, *Secretary.*

MEMBERS REGISTERED SECTION ON SURGERY

Adams County Society—J. M. Dickson, Gettysburg.

Allegheny County Society—H. H. Meanor, Coraopolis; D. P. McCune, McKeesport; R. L. Anderson, W. Anderson, S. S. Carrier, B. Z. Cashman, S. A. Chalfant, N. P. Davis, R. E. Davison, H. R. Decker, R. M. Entwisle, L. R. Goldsmith, S. M. Hankey, M. R. Hoon, D. B. Ludwig, E. W. Meredith, M. A. Slocum, C. M. Swindler, P. Titus, J. H. Wagner, C. C. Yount, Pittsburgh; G. E. Cramer, Sharpsburg; H. Bartle, Wilkinsburg.

Armstrong County Society—E. C. Winters, Ford City.

Beaver County Society—J. H. Wilson, Beaver.

Berks County Society—W. C. LeCompte, Bristol; J. M. Bertolet, R. A. Harding, H. Hirshland, A. P. Isenberg, G. W. Kehl, H. M. Leinbach, F. G. Runyeon, Reading.

Blair County Society—D. G. Burket, J. D. Findley, J. H. Galbraith, W. H. Howell, H. F. Moffitt, J. R. T. Snyder, Altoona; J. L. Brubaker, Juniata.

Bradford County Society—D. Guthrie, Sayre.

Bucks County Society—J. F. Wagner, Bristol.

Cambria County Society—R. C. Davis, J. B. Lowman, C. B. Millhoff, Johnstown.

Chester County Society—G. E. Dietrich, D. P. Rettew, S. H. Scott, C. H. Stone, J. Taylor, Coatesville; J. Scattergood, West Chester.

Clearfield County Society—J. W. Gordon L. F. Stewart, S. J. Waterworth, W. O. Wilson, Clearfield; I. S. Flegal, Karthaus; W. A. Andrews, A. C. Lynn, Philipsburg.

Clinton County Society—G. D. Mervine, J. E. Teah, D. W. Thomas, Lock Haven.

Columbia County Society—J. Cohen, Berwick; J. W. Bruner, W. P. Hughes, J. S. John, Bloomsburg.

Crawford County Society—J. W. Hazen, Meadville.

Cumberland County Society—R. M. Shepler, H. A. Spangler, Carlisle.

Dauphin County Society—D. W. Schaffner, Enhaut; T. E. Bowman, C. Coover, F. W. Coover, W. T. Douglass, H. F. Gross, J. B. Hileman, W. S. Houck, G. B. Kunkel, H. L. Lakin, G. L. Laverty, H. E. Milli-

ken, E. A. Nicodemus, J. E. T. Oxley, R. E. Pilgrim, J. F. Reed, M. H. Sherman, H. F. Smith, H. A. Stine, G. B. Hull, S. N. Traver, Harrisburg; C. C. Bobb, Lykens; A. J. Griest, Steelton, H. A. Shaffer, Williamstown.

Delaware County Society—H. M. Armitage, W. B. Evans, D. J. McCormick, F. W. Nyemetz, Chester; R. G. Witman, Swarthmore.

Erie County Society—A. G. Davis, E. Hess, P. J. McCarthy, Erie.

Fayette County Society—F. S. Hoover, Brownsville; H. O. Hoffman, Connellsville; A. E. Crow, Uniontown.

Franklin County Society—L. M. Kauffman, H. W. Miley, L. H. Seaton, S. D. Shull, Chambersburg; T. H. Weagley, Marion; W. B. O'Rear, A. B. Snively, Waynesboro.

Greene County Society—R. E. Brock, Waynesburg.

Huntingdon County Society—C. W. Banks, Derry; C. G. Brumbaugh, H. C. Frontz, F. R. Hutchison, J. M. Johnston, Huntingdon; R. R. Decker, Lewistown; W. J. Campbell, Mount Union.

Indiana County Society—F. F. Moore, Homer City.

Jefferson County Society—S. M. Free, DuBois; G. M. Musser, Punxsutawney; W. E. Dodd, Rossiter.

Lackawanna County Society—F. L. Van Sickle, Harrisburg; H. W. Albertson, W. W. Probst, C. E. Thomson, R. T. Wall, Scranton; R. J. Lloyd, Olyphant.

Lancaster County Society—J. D. Denney, J. P. Kennedy, R. Reeser, Columbia; T. B. Appel, J. L. Atlee, E. S. Crosland, C. R. Farmer, W. C. Keller, C. Lowell, S. W. Miller, S. G. Pontius, C. P. Stahr, J. M. Yeagley, Lancaster.

Lebanon County Society—C. P. Krum, W. H. Means, A. S. Weiss, S. A. Light, Lebanon.

Lehigh County Society—T. W. Cook, F. A. Fetherolf, C. S. Kistler, G. S. Lawall, F. R. Wentz, Allentown.

Luzerne County Society—M. C. Rumbaugh, C. L. Shafer, Kingston; A. C. Brooks, H. B. Gibby, S. P. Mengel, W. S. Stewart, S. M. Wolfe, Wilkes-Barre.

Lycoming County Society—G. A. Poust, Hughesville; P. A. Bay, L. M. Goodman, C. S. Mohn, Jersey Shore; G. W. Muffley, Turbotville; R. J. Bower, J. A. Campbell, W. E. Delaney, A. F. Hardt, J. P. Harley, L. M. Knauber, A. C. Lamade, Williamsport.

Mifflin County Society—T. H. Smith, Burnham; W. H. Kohler, Milroy.

Montgomery County Society—A. Godfrey, Ambler; J. B. Sherbon, Harrisburg; H. H. Drake, G. W. Miller, W. G. Miller, Norristown; J. E. Gotwals, Phœnixville; O. C. Heffner, Pottstown.

Montour County Society—H. L. Foss, Danville.

Northampton County Society—W. L. Estes, W. L. Estes, Jr., H. J. Schmoyer, L. A. Shoudy, D. K. Santee, Bethlehem; J. A. Betts, Easton; W. A. Snyder, Stroudsburg.

Northumberland County Society—G. W. Reese, C. H. Weimer, Shamokin.

Philadelphia County Society—J. O. Arnold, W. W. Babcock, J. H. Baldwin, M. Behrend, A. E. Billings, G. M. Boyd, H. P. Brown, Jr., G. M. Dorrance, E. L. Eliason, W. T. Ellis, J. M. Fisher, M. M. Franklin, J. H. Gibbon, J. J. Gilbride, F. C. Grant, F. C. Hammond, H. H. Holderman, T. M. Johnson, J. H. Jopson, E. J. Klopp, W. Krusen, C. B. Longenecker, C. B. Lull, J. F. McCloskey, F. H. Maier, J. K. Marks, C. F. Martin, H. C. Masland, G. P. Muller, J. S. Raudenbush, C. B. Reynolds, J. L. Richards, J. T. Rugh, J. T. Schell, E. A. Schumann, I. P. Strittmatter, A. W. Tallant, B. A. Thomas, T. T. Thomas, S. E. Tracy, J. R. Wells, D. P. Willard, P. F. Williams, Philadelphia.

Schuylkill County Society—G. O. O. Santee, Cressona; A. S. Ryland, Pottsville; C. H. Knauer, Jr., Schuylkill Haven.

Tioga County Society—L. G. Cole, Blossburg.

Warren County Society—C. J. Frantz, Warren.

Washington County Society—A. E. Thompson, Washington.

York County Society—J. A. Melsheimer, Hanover; H. W. Kohler, Red Lion; J. F. Bacon, W. F. Bacon, S. H. Ensminger, W. F. Gemmill, F. V. McConkey, B. W. Shirey, L. S. Weaver, York.

MINUTES OF THE SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

TUESDAY, OCTOBER 6, 1925

The Section on Eye, Ear, Nose and Throat Diseases met in the Senate Caucus Room in the Capitol, the first meeting being called to order at two o'clock by the Chairman, Dr. S. MacCuen Smith of Philadelphia.

The period from 2:00 to 2:55 was occupied by the presentation of "Some Observations in Ametropia and Heterophoria" by Dr. Howard F. Hansell, Philadelphia, Principal; and Drs. Theodore B. Schneideman, Philadelphia, and Charles E. G. Shannon, Philadelphia, Associates.

The period from 3:00 to 3:55 was occupied by the presentation of a symposium on Slit-Lamp Microscopy, by Dr. G. Oram Ring, Philadelphia, Principal; "The Crystalline Lens as Seen with the Slit-Lamp" (Lantern Demonstration), Dr. Arthur J. Bedell, Albany, N. Y., by invitation; and "Slit-Lamp Microscopy in Everyday Practice," Dr. Luther C. Peter, Philadelphia, Associate.

The period from 4:00 to 4:55 was occupied by a presentation of the subject, "Metal-Splash Burns of the Eye. Symblepharon. Incised and Lacerated Wounds of the Eyelids. Foreign Bodies of the Cornea. Penetrating Wounds of the Cornea, with Prolapse of the Iris. Interstitial Keratitis," by Drs. Edward B. Heckel, Pittsburgh, Principal; and Stanley S. Smith, Pittsburgh, and Thomas H. Manley, Jr., Tarentum, Associates.

This symposium was discussed by Drs. Wm. M. Sweet, Philadelphia; George H. Cross, Chester; and the discussion closed by Dr. Heckel.

On motion of Dr. G. Oram Ring, duly seconded, the Section tendered a rising vote of thanks to Dr. Arthur J. Bedell for his very interesting and highly illuminating demonstration.

Dr. George W. Mackenzie, Philadelphia, made the following report for the Committee on Visual Requirements for Applicants for Automobile License:

MR. CHAIRMAN: A year ago a motion was made, seconded, and duly carried that a committee of two be appointed to communicate with the Governor of the State and the Commissioner of Highways, acquainting them with that part of the contents of the Chairman's address pertaining to the visual and other requirements for applicants to drive automobiles in Pennsylvania. We had quite a little correspondence with different people, and in the end a letter was drafted incorporating also some of the suggestions of the National Committee headed by Dr. Posey. This letter was submitted to the other member of the committee, Dr. Gracey; also to Dr. Curry and Dr. Weinberger. It was approved, and one letter was sent to the Governor and another to the Commissioner of Highways. To make the report as brief as possible, I will read you the reply from the Commissioner of Highways.

Dr. George W. Mackenzie, February 20, 1925.
1724 Spruce St.,
Philadelphia, Pennsylvania.

Dear Sir:

Replying to your letter of February 9th addressed to the Highway Commissioner and forwarded to this Bureau, I was very glad to receive the information contained therein with regard to physical standards for drivers of motor vehicles and I am particularly gratified that the State Medical Society will assist us in any way possible.

At the present time we are considering several suggestions with regard to visual tests, and are attempting to maintain a complete record of any person having a physical infirmity or incapacity which might be the cause of refusal of an operator's

license. I will indeed be glad to consider the information you have given me in connection with these studies.

Very truly yours,
(Signed) BENJ. G. EYNON,
Registrar of Motor Vehicles.

Having performed our duty, we ask you, Mr. Chairman, to accept our report and discharge the committee.
GEORGE W. MACKENZIE, *Chairman.*

It was moved by Dr. Wm. M. Sweet that the report be accepted and the committee discharged with thanks. Motion seconded and carried.

The Section adjourned.

WEDNESDAY, OCTOBER 7, 1925

The Wednesday-afternoon meeting was called to order at two o'clock by the Chairman, Dr. S. MacCuen Smith.

The period from 2:00 to 2:55 was occupied by a presentation of "A Consideration of Aural Diseases, with a View to Prevention of the Various Complications," as follows:

"Etiology and Pathology from a Practical Viewpoint," Dr. Frederick J. Bishop, Scranton.

"Symptomatology," Dr. Eugene A. Curtin, Scranton.

"Treatment," Dr. Ernest U. Buckman, Wilkes-Barre.

This symposium was discussed by Drs. S. MacCuen Smith, Philadelphia; John F. Culp, Harrisburg; and the discussion closed by Dr. Buckman.

The period from 3:00 to 3:55 was occupied by Dr. Wells P. Eagleton, Newark, N. J. (by invitation), who presented the subject of "Brain Abscess," with a lantern demonstration.

On motion of Dr. Ernest U. Buckman, duly seconded, the Section tendered a vote of thanks to Dr. Eagleton for his most instructive address.

The period from 4:00 to 4:55 was occupied by the following symposium on Lateral Sinus Thrombosis.

"Anatomy and Etiology," Dr. James A. Babbitt, Philadelphia.

"Pathology, Diagnosis and Differential Diagnosis," Dr. J. Clarence Keeler, Philadelphia.

"Treatment: Prophylactic, Surgical, and Intravenous" (Lantern Demonstration), Dr. Curtis C. Eves, Philadelphia.

The Section adjourned.

THURSDAY, OCTOBER 8, 1925

The Thursday-morning meeting was called to order a few minutes before nine in order to hear the Report of the Executive Committee, who nominated the following: Chairman, Nelson S. Weinberger, Sayre; Secretary, Robert F. Ridpath, Philadelphia.

On motion, duly seconded, this report was accepted and the above officers declared elected.

The first period, from 9:00 to 9:55, was occupied by a presentation of "Affections of the Ocular Nerves Arising from Suppurative Otitis Media and its Complications" (Lantern Demonstration).

"Pathological Conditions," Dr. George M. Coates, Philadelphia.

"Neurological Considerations," Dr. Wells P. Eagleton, Newark, N. J.

"Surgical Indications," Dr. William Hardin Sears, Huntingdon.

The period from 10:00 to 10:55 was occupied by Dr. Ross Hall Skillern of Philadelphia, who presented "The Ethmoidal Problem," (Lantern Demonstration).

This subject was discussed by Drs. Jesse L. Lenker, Harrisburg; Chas. I. Trullinger, Harrisburg; George F. Gracey, Harrisburg, and the discussion closed by Dr. Skillern.

The period from 11:00 to 11:55 was occupied by the following Case Reports.

Acute Mastoiditis with Complications, Dr. John F. Culp, Harrisburg.

Cataract Extraction in a Myope, with Loop and Corneal Suture, Dr. S. Lewis Ziegler, Philadelphia.

Changes in Audition in a Case of Osteitis Deformans, Dr. Harvey M. Becker, Sunbury.

Sarcoma of the Maxillary Antrum, Dr. A. Spencer Kaufman, Philadelphia.

Removal of Foreign Body from Nasal Chamber, Dr. F. Earle Magee, Oil City.

Lingual Quinsy, Dr. George B. Jobson, Franklin.

Systemic Infection Following Expression of Caseous Material from Tonsils, Dr. Frederick B. Harding, Allentown.

Removal of Watermelon Seed from Right Bronchus of a Child, Dr. Charles E. Hays, Johnstown.

Complete Unilateral Congenital Bony Atresia of Postnasal Space, Dr. Philip H. Decker, Williamsport.

The officers of the Society having asked for an expression from the Section as to the new form of program, it was moved by Dr. Theodore B. Schneideman that in the future the Principal and Associates be limited to forty minutes, thus allowing fifteen minutes of each period for general discussion. Motion seconded and carried.

It was further moved by Dr. John F. Culp that not more than five case reports be given in one period, allowing each man ten minutes. Motion seconded and carried.

The period from 12:00 to 12:55 was occupied by the following symposium:

"The Thymus Gland," Dr. David N. Husik, Philadelphia.

"Thymic Death; its Clinical Differentiation" (Lantern Demonstration), Dr. J. Claxton Gittings, Philadelphia.

"Physiology of the Thymus Gland," Dr. Samuel Goldschmidt, Philadelphia (by invitation).

It was moved by Dr. John F. Culp that a vote of thanks be tendered to Dr. Goldschmidt for his very scientific exposition. Motion seconded and carried.

The Section on Eye, Ear, Nose and Throat Diseases adjourned *sine die.*

S. MACCUEN SMITH, *Chairman,*
NELSON S. WEINBERGER, *Secretary.*

MEMBERS REGISTERED SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

Adams County Society—G. H. Seaks, Gettysburg.

Allegheny County Society—A. J. Bruecken, L. L. Cooper, H. C. Flood, L. C. Fulton, R. A. D. Gillis, E. B. Heckel, C. J. Jaquish, E. C. Kneedler, J. G. Linn, J. C. Markel, F. L. Schumacher, J. R. Simpson, G. W. Smeltz, S. Smith, H. H. Turner, G. J. Wright, Pittsburgh; T. H. Manley, Tarentum.

Berks County Society—I. B. High, M. L. Huyett, J. E. Livingood, J. A. Stockler, Reading; S. S. Hill, Wernersville.

Blair County Society—S. P. Glover, J. J. Hogue, F. K. Miller, Altoona.

Bradford County Society—N. S. Weinberger, Sayre.

Cambria County Society—E. F. Arble, Carrolltown; O. G. A. Barker, H. M. Griffith, C. E. Hays, R. Parker, Johnstown.

Carbon County Society—C. J. Kistler, Lehighton.

Clearfield County Society—W. S. Piper, Clearfield; W. S. Bryan, Ramey.

Clinton County Society—S. J. McGhee, Lock Haven.

Columbia County Society—M. W. Freas, Berwick; H. Bierman, Bloomsburg.

Crawford County Society—C. Cooper, Titusville.

Cumberland County Society—P. W. Wagoner, Carlisle.

Dauphin County Society—C. W. Batdorf, G. W. Bauder, C. C. Cocklin, J. F. Culp, G. C. Dailey, C. B. Fager, J. H. Fager, H. H. Farnsler, B. M. Garfinkle, G. F. Gracey, M. V. Hazen, H. F. Lanshe, A. L. Marshall, D. I. Miller, J. W. Park, C. S. Rebuck, A. Z. Ritzman, Harrisburg; H. W. George, T. V. Murto, Middletown; F. W. Byrod, Steelton.

Delaware County Society—G. H. Cross, S. P. Gray, A. V. B. Orr, C. I. Stiteler, Chester.

Erie County Society—F. Fisher, Jr., Erie.

Fayette County Society—H. A. Heise, Uniontown.

Franklin County Society—F. H. Emmert, E. M. Rus-

sell, H. M. Stewart, Chambersburg; W. E. Holland, Fayetteville; R. H. McCutcheon, Mont Alto.

Huntingdon County Society—J. M. Keichline, C. R. Reiners, W. H. Sears, Huntingdon.

Jefferson County Society—R. C. Gourley, J. A. Walter, Punxsutawney.

Lackawanna County Society—F. J. Bishop, E. A. Curtin, J. P. Donahoe, C. D. Miller, M. M. Williams, Scranton.

Lancaster County Society—R. Deck, W. B. Hamaker, W. H. Lefevre, J. P. Roebuck, T. C. Shookers, Lancaster; A. F. Snyder, W. M. Thome, Mount Joy.

Lebanon County Society—J. J. Light, Lebanon.

Lehigh County Society—F. B. Harding, G. F. Seiberling, S. M. Uhler, Allentown; D. J. Langton, Clifton Heights.

Luzerne County Society—M. H. Collier, White Haven; E. M. Buckman, L. T. Buckman, O. F. Kistler, Wilkes-Barre.

Lycoming County Society—H. P. Haskin, W. F. Kunkle, W. H. Rote, Williamsport.

McKean County Society—F. DeCaria, Bradford.

Mercer County Society—E. MacBride, Sharon.

Mifflin County Society—J. G. Koshland, Lewistown.

Montgomery County Society—H. P. Lakin, Lansdale; S. M. Miller, J. B. Price, Norristown.

Montour County Society—R. Nebinger, J. H. Sandel, Danville; J. E. Robbins, Wernersville.

Northampton County Society—J. E. James, P. H. Kleinhans, Bethlehem.

Northumberland County Society—H. M. Becker, Sunbury.

Philadelphia County Society—W. H. Annesley, J. A. Babbitt, R. W. Bailey, P. L. Balentine, J. A. Bertolet, C. C. Biedert, S. A. Brumm, B. Chance, J. H. Clark, L. H. Clerf, J. W. Croskey, T. R. Currie, L. W. Deichler, H. A. Duncan, M. S. Ersner, C. C. Eves, C. L. Felt, J. I. Gouterman, J. M. Griscom, E. G. Hawman, H. F. Hansell, C. R. Heed, M. Herman, D. N. Husik, C. Jackson, A. S. Kaufman, J. C. Keeler, G. A. Lawrence, D. R. MacCarroll, W. F. Manges, B. H. Mann, E. B. Miller, L. C. Peter, P. J. Pontius, G. O. Ring, T. B. Schneideman, W. J. Sener, C. E. G. Shannon, B. H. Shuster, S. M. Smith, W. M. Sweet, G. Tucker, E. L. Vansant, A. J. Wagers, G. L. Whelan, C. Y. White, H. S. Wieder, M. A. Zacks, S. L. Zeigler, Philadelphia.

Schuylkill County Society—R. F. Fleck, Mahanoy City; J. J. Dailey, McAdoo; T. L. Williams, Mt. Carmel; J. L. Flanigan, Pottsville; J. J. Monahan, Shenandoah.

Snyder County Society—P. J. Herman, Selinsgrove.

Venango County Society—G. B. Jobson, Franklin; F. E. Magee, Oil City.

Westmoreland County Society—C. C. Baldwin, Greensburg.

York County Society—C. L. Fackler, J. F. Klinedinst, A. C. Sorenson, G. E. Spotz, M. C. Wentz, York.

MINUTES OF THE SECTION ON PEDIATRICS

TUESDAY, OCTOBER 6, 1925

The first session of the Pediatric Section was called to order Tuesday, October 6, 1925, at 2 p. m. by Dr. Theodore J. Elterich, Pittsburgh, Chairman, at the Penn-Harris, Harrisburg, Pa.

The first period of the afternoon program consisted of a symposium on Pyloric Stenosis. Dr. Herbert E. Hall, Uniontown, Principal, read a paper entitled "Congenital Hypertrophic Stenosis of the Pylorus." Dr. Theodore O. Elterich, Pittsburgh, Associate, read a paper entitled "Pylorospasm." Dr. William B. Ray, Pittsburgh, Associate, read a paper entitled "Congenital Hypertrophic Pyloric Stenosis and Pylorospasm from the Viewpoint of the Roentgenologist."

General discussion of these papers was participated in by Dr. James A. Kelly, Philadelphia; Dr. Henry T. Price, Pittsburgh; Dr. James H. McKee, Philadelphia; Dr. John A. Stevens, Woodlawn; and Dr. George J. Feldstein, Pittsburgh. There was no closing discussion.

The second period consisted of a paper by Dr. James H. McKee, Philadelphia, entitled "Infant Feeding Once More." A general discussion was participated in by Dr. Paul B. Cassidy, Philadelphia; Dr. John M. Higgins, Sayre; Dr. John D. Denney, Columbia; Dr. Robert K. Rewalt, Williamsport; Dr. Jacob E. Hostetter, Gap; and Dr. Robbins, Bethlehem. Dr. McKee closed the discussion.

The third period consisted of a paper by Dr. H. G. Wertheimer, Pittsburgh, Principal, entitled "Impetigo Contagiosa," and a paper by Dr. Collin Foulkrod, Philadelphia, Associate, entitled "Pemphigus Neonatorium." General discussion of these papers was participated in by Dr. George J. Feldstein, Dr. James H. McKee, Philadelphia. Dr. Wertheimer closed the discussion.

The attendance at this meeting was 48.

Adjourned 4:50 p. m.

WEDNESDAY, OCTOBER 7, 1925

The second session of the Pediatric Section was called to order Wednesday, October 7, 1925, at 2 p. m., by Dr. Theodore J. Elterich, Chairman, Pittsburgh.

The first period was occupied by a symposium on the Care of Children with Heart Disease. The following papers were read:

"The Prevention of Heart Disease in Children" by Drs. Walter H. Lindsey and James E. Talley, Associates, Philadelphia.

"The Advantages of the Electrocardiograph in the Study of Heart Disease in Children" by Dr. Thomas M. McMillan, Associate, Philadelphia.

"The Relief of Heart Disease in Children" by Dr. William D. Stroud, Principal, Philadelphia.

Dr. Joseph Sailer, Philadelphia, opened the discussion, and as the time for the period was consumed there was no further discussion.

The second period of the afternoon was devoted to a paper entitled "Psychic, Nervous and Mechanical Factors in Digestive Disorders of Childhood," by Dr. John P. Scott, Principal, Philadelphia.

A general discussion was participated in by Dr. Percival Nicholson, Ardmore; Dr. Alfred Hand, Jr., Philadelphia; Dr. Elmer L. Meyers, Wilkes-Barre; Dr. Charles K. Mills, Philadelphia; Dr. J. Gibson Logue, Williamsport. Dr. Scott closed the discussion.

The Executive Committee made the following nominations for officers for the ensuing year: Chairman, Dr. Horace H. Jenks, Philadelphia; Secretary, Dr. Z. R. Scott, Pittsburgh. On motion, duly seconded and carried, the above-named gentlemen were elected officers for the coming year, the Secretary having cast a ballot as provided by the motion.

The third period of the afternoon was devoted entirely to a paper entitled "Studies in Nephritis in Children" by Dr. Samuel W. Clausen, Rochester, N. Y., who appeared before the Society by invitation.

Adjourned at 5:05 p. m.

THURSDAY, OCTOBER 8, 1925

The third session of the Pediatric Section was called to order on Thursday, October 8th, at 9 a. m. by Chairman Elterich, Pittsburgh.

The first period of this session was devoted to the following papers:

"Dangers of the Common Cold in the Newborn. Importance of Pneumonia with Delayed Resolution in Infants and Children" by Dr. Henry T. Price, Principal, Pittsburgh.

"Empyema" by Dr. Robert E. Davison, Associate, Pittsburgh.

"Inspiration of Dusting Powders in Infancy" by Dr. R. H. Middleton, Associate, Pittsburgh.

"Pulmonary Abscess as a Sequel of Tonsillectomy" (Lantern, Cinematograph, and Chalk Demonstration) by Dr. Chevalier Jackson, Associate, Philadelphia.

There was no discussion of these papers.

The second period was devoted to a symposium on medical work with preschool children, and was composed of the following papers:

"Report of a Four Years' Health Program with Preschool-Age Children of Italian Parentage in Philadelphia," by Dr. Emily P. Bacon, Principal, Philadelphia.

"Health Work with Preschool-Age Children in Rural Communities" by Dr. J. Bruce McCreary, Associate, Harrisburg.

"Gastro-Intestinal Studies as an Aid in the Treatment of Undernourished Children" by Dr. Mary E. Spears, Associate, Philadelphia.

There was no discussion of these papers as the time was fully taken up.

The third period of this session was devoted to case reports as follows:

"Congenital Obstruction of the Esophagus" by Dr. Henry Flood, Pittsburgh.

"Leiner's Disease" by Dr. John D. Stevenson, Beaver.

"Case of Dehydration Fever of Unusual Etiology and Sequelæ" by Dr. Ralph M. Tyson, Philadelphia.

"Two Interesting Anomalies—Congenital Absence of Bones in Male Infants" by Dr. H. Harris Perlman and Dr. Leon S. Cohen, Philadelphia.

"Roentgen-Ray Intoxication, with Death Following Treatment of Enlarged Thymus" by Dr. Arthur Dannenberg, Philadelphia.

"Case of Pyonephrosis; Almost Complete Destruction of Both Kidneys, with Polyuria" by Dr. J. Donald Iams, Pittsburgh.

"Case of Apparent Intestinal Obstruction Resulting in Appendicitis with Operation, and Followed by Hysteria" by Dr. Percival Nicholson, Ardmore.

There was no discussion of these reports. The fourth period of this session was entirely devoted to a paper entitled "Recent Studies of Diabetes in Children" by Dr. Henry R. Geyelin, New York City, who appeared before the Section by invitation.

Adjourned at 1:05 p. m.

THEODORE J. ELTERICH, *Chairman,*
HORACE H. JENKS, *Secretary.*

MEMBERS REGISTERED SECTION ON PEDIATRICS

Adams County Society—E. Elgin, East Berlin.

Allegheny County Society—J. L. Foster, Blawnox; T. J. Elterich, T. O. Elterich, G. J. Feldstein, J. D. Iams, L. E. Lacock, R. H. Middleton, H. T. Price, Pittsburgh.

Armstrong County Society—A. E. Bower, Ford City.

Beaver County Society—J. D. Stevenson, Beaver.

Berks County Society—C. Shetter-Keiser, Reading.

Blair County Society—F. Keagy, Altoona.

Bradford County Society—J. E. Everett, J. M. Higgins, Sayre; P. N. Barker, Troy.

Chester County Society—M. Margolies, Coatesville; F. H. Wells, Chester Springs.

Clearfield County Society—R. L. Williams, Houtzdale.

Cumberland County Society—R. R. Spahr, J. B. Spangler, Mechanicsburg, J. B. McCreary, Shippensburg.

Dauphin County Society—H. R. Douglas, C. E. L. Keen, F. D. Kilgore H. J. Kirby, M. R. Noble, R. J. Miller, A. L. Page, Harrisburg; W. J. Middleton, J. R. Plank, Steelton.

Delaware County Society—K. Ulrich, Chester; R. E. Bell, E. L. Clark, Media.

Elk County Society—J. E. Madara, St. Marys.

Erie County Society—R. S. Minerd, Erie.

Fayette County Society—H. E. Hall, Uniontown.

Franklin County Society—T. Peters, A. W. Thrush, Chambersburg.

Huntingdon County Society—F. P. Simpson, Mapleton.

Jefferson County Society—J. A. Newcome, Vandergrift.

Lackawanna County Society—D. E. Berney, Scranton.

Lancaster County Society—H. B. Roop, Columbia; D. E. Cary, D. W. Draper, G. W. Stoler, C. H. Witmer, Lancaster; W. J. Leaman, Leaman Place; G. A. Harter, Maytown; W. M. Workman, Mount Joy; L. M. Bryson, Paradise.

Lebanon County Society—J. D. Kerr, Lebanon; S. D. Bashore, Palmyra.

Lehigh County Society—F. R. Bausch, R. F. Merkle, J. A. Noble, T. H. Weaber, Allentown; H. E. Klingaman, Emaus; D. H. Parmet, Philadelphia; H. B. Kern, Slatington.

Luzerne County Society—C. H. Miner, E. L. Meyers, Wilkes-Barre.

Lycoming County Society—R. H. Born, Montoursville; T. K. Wood, Muncy; J. G. Logue, R. K. Rewalt, Williamsport.

McKean County Society—H. A. Wilson, Bradford.

Mercer County Society—P. E. Biggins, Sharpsville.

Mifflin County Society—H. E. Miller, Belleville.

Montgomery County Society—P. Nicholson, Ardmore; H. A. Bostock, A. R. Garner, Williamsport; J. K. W. Wood, Willow Grove.

Montour County Society—J. H. Focht, Elysburg.

Northampton County Society—H. O. Rohrbach, Bethlehem.

Philadelphia County Society—H. S. Bachman, E. P. Bacon, P. B. Cassidy, A. M. Dannenberg, G. W. Deitz, F. S. Ferris, J. C. Gittings, A. Hand, H. H. Jenks, T. C. Kelly, W. H. Lindsay, J. H. McKee, H. B. Mills, H. H. Perlman, I. R. Schoonmaker, J. P. Scott, Philadelphia.

Somerset County Society—H. C. McKinley, Somerset.

Warren County Society—E. S. Briggs, Warren; R. H. Knapp, Youngsville.

Washington County Society—C. C. Cracraft, Claysville.

Westmoreland County Society—J. L. Reese, Bolivar; H. B. Emerson, Philadelphia.

York County Society—L. M. Hartman, A. B. Shatto, York.

MINUTES OF THE SECTION ON DERMATOLOGY

TUESDAY, OCTOBER 6, 1925

The Section on Dermatology convened at two o'clock, in the Senate Chamber, Capitol Building, Harrisburg, Dr. William H. Guy, Pittsburgh, presiding.

CHAIRMAN GUY: The section will please come to order. The Chair would call your attention to the fact that we have absolutely no power in extending the time for any of the speakers. That is controlled entirely by clock arrangement, by virtue of which a man, if given fifteen minutes for the presentation of his subject, will be timed accurately. One minute before the close of his time he will be notified by a signal, a tap of the bell, and automatically at the close of his time the alarm will sound in that fashion. There will be no discussion of current papers as they are presented. We shall attempt to follow the program as laid out and at the close, the meeting will be thrown open for general discussion.

The first part of the program was devoted to a Symposium on Cutaneous Malignancy. Dr. Jay F. Schamberg of Philadelphia, read the first paper on "The Symptomatology of Skin Cancer, with Special Reference to Causative Influences," which was illustrated with lantern slides. Dr. Lester Hollander of Pittsburgh then read a paper on "The Diagnosis and Prognosis of Skin Cancer." Dr. George E. Pfahler of Philadelphia read a paper on "The Treatment of Skin Cancer," which was illustrated with lantern slides.

There was no discussion of these papers.

The second period was devoted to a Symposium on Eczema, and the first paper was read by Dr. Stanley Crawford, Pittsburgh, on "Eczema in Infants, Children and Adults." This was discussed by Dr. J. Claxton Gittings of Philadelphia. Dr. Edward F. Corson of Philadelphia read a paper on "Etiology and General

Consideration of Eczema." In the absence of Dr. Frank Evans, of Pittsburgh, who was to discuss Dr. Corson's paper, the Chairman called upon Dr. Fred Weidman of Philadelphia for the discussion. Dr. Lawrence G. Beinhauer of Pittsburgh then read a paper on "General Management and Treatment of Eczema."

CHAIRMAN GUY: Due to the fact that we are running ahead of our schedule and it is the purpose of the Program Committee to have the presentation of papers at a definite time, so that members attending another section may schedule their arrival in a certain section in order to hear some particular paper we have available about twenty minutes before the final symposium is due. Therefore, I propose to open the meeting for general discussion of the Symposium on Eczema. The general discussion is on the papers of Drs. Crawford, Corson, and Beinhauer, and they are now open for discussion from the floor. If there is no objection from any of the members, I should like to extend the courtesy of the floor to Dr. J. W. Lord of Baltimore, who is our guest today.

The third period of the program was devoted to a Symposium on Diagnosis of Syphilis. Dr. John H. Stokes of Philadelphia read a paper on "The Problem of Syphilis in Surgical Diagnosis," which was illustrated with lantern slides. Dr. George J. Busman of Pittsburgh read a paper on "Some Important Landmarks of Late Congenital and Acquired Syphilis," which was illustrated with lantern slides. Dr. Joseph V. Klauder of Philadelphia read a paper on "The Early Diagnosis of Syphilis; Correlation of Clinical and Laboratory Methods."

There was no discussion of these papers.

The Nominating Committee reported that Dr. Fred Weidman of Philadelphia had been nominated as Chairman of the Section on Dermatology for the coming year, and Dr. Joseph V. Klauder of Philadelphia as Secretary. There being no further nominations, upon motion duly seconded and carried, the Secretary was instructed to cast the ballot for Dr. Weidman and Dr. Klauder.

Adjournment at 5 p. m.

WILLIAM H. GUY, *Chairman*,
JOSEPH V. KLAUDER, *Secretary*.

MEMBERS REGISTERED SECTION ON DERMATOLOGY

Allegheny County Society—L. G. Beinhauer, G. J. Busman, S. Crawford, W. H. Guy, L. Hollander, F. M. Jacob, H. G. Wertheimer, Pittsburgh.

Bedford County Society—E. L. Smith, Bedford.

Berks County Society—D. S. Grim, P. F. Werner, Reading.

Blair County Society—G. E. Alleman, Altoona.

Bradford County Society—C. Haines, Sayre; G. H. Gustin, Troy.

Cambria County Society—J. W. Barr, Johnstown.

Dauphin County Society—P. A. Deckard, J. C. DeVenney, R. E. Holmes, J. E. Jauss, J. Oenslager, Jr., L. W. Wright, Harrisburg; E. S. Everhart, Lemoyne.

Erie County Society—E. Steinberg, Erie.

Lancaster County Society—H. B. Davis, R. D. Swab, Lancaster.

Luzerne County Society—C. H. Phillips, Wilkes-Barre.

Montgomery County Society—E. F. Corson, Cynwyd; W. Z. Anders, Collegeville.

Philadelphia County Society—S. S. Greenbaum, J. V. Klauder, H. G. Munson, G. E. Pfahler, J. H. Stokes, Philadelphia.

Washington County Society—H. J. Repman, Charleroi.

Westmoreland County Society—J. H. Fiscus, Greensburg.

York County Society—J. H. Bennett, L. W. Fishel, B. F. Parker, S. K. Pfaltzgraff, York.

MEMBERS REGISTERED SECTION NOT DESIGNATED

Allegheny County Society—W. F. Donaldson, J. A. Hawkins, W. B. Ray, Pittsburgh; E. P. Gray, Wilkinsburg.

Cambria County Society—F. U. Ferguson, Gallitzin; A. T. Donlan, Lilly.

Crawford County Society—S. J. Dickey, Grove City.

Cumberland County Society—S. E. Mowery, Mechanicsburg.

Dauphin County Society—W. M. Kunkel, E. K. Lawson, S. J. Roberts, J. W. Shaffer, B. F. Smith, G. G. Snyder, R. D. Swiler, H. B. Walters, P. C. Waller, W. H. West, G. H. Widder, L. S. Witherow, W. E. Wright, Harrisburg; O. F. McKittrick, Linglestown.

Elk County Society—H. H. Smith, Johnsonburg.

Lackawanna County Society—U. G. Anderson, Carbondale.

Lancaster County Society—B. J. Reemsnyder, Ephrata; W. F. Mylin, Lancaster; T. E. Ingram, Marietta; J. S. Kendig, Salunga.

Luzerne County Society—W. F. Danzer, Hazleton; H. M. Neale, Upper Lehigh.

Montour County Society—D. B. McHenry, Danville.

Northampton County Society—E. R. Lewis, Easton; W. J. Koch, Nazareth.

Northumberland County Society—W. J. Flanagan, Shamokin.

Perry County Society—A. R. Johnston, New Bloomfield.

Philadelphia County Society—F. F. Borzell, D. F. Kline, W. S. Newcomet, Philadelphia.

Sullivan County Society—H. K. Davis, Sonestown.

Tioga County Society—C. W. Sheldon, Wellsboro.

York County Society—C. E. Spahr, C. H. Venus, York.

REGISTRATION BY COUNTIES

Adams—9
Allegheny—99
Armstrong—5
Beaver—4
Bedford—4
Berks—34
Blair—19
Bradford—9
Bucks—2
Butler—1
Cambria—22
Carbon—2
Center—4
Chester—16
Clarion—0
Clearfield—18
Clinton—5
Columbia—8
Crawford—3
Cumberland—19
Dauphin—124
Delaware—14
Elk—2
Erie—7
Fayette—7
Franklin—21
Greene—1
Huntingdon—14
Indiana—3
Jefferson—7
Juniata—3
Lackawanna—27
Lancaster—55
Lawrence—0
Lebanon—13
Lehigh—17
Luzerne—27
Lycoming—35
McKean—2
Mercer—3
Mifflin—11
Monroe—0
Montgomery—23
Montour—14
Northampton—22
Northumberland—10
Perry—4
Philadelphia—171
Potter—1
Schuylkill—15
Snyder—4
Somerset—3
Sullivan—2
Susquehanna—2
Tioga—2
Union—3
Venango—3
Warren—4
Washington—7
Wayne—0
Westmoreland—7
Wyoming—1
York—41

DELEGATES FROM OTHER SOCIETIES

William D. Haggard, President, American Medical Association; W. Blair Stewart, Medical Society of New Jersey; C. D. Selby, President, Ohio State Medical Society; Henri P. Linsz, West Virginia State Medical Association; C. J. Hollister, Pennsylvania State Dental Society; Ambrose Hunsberger, Pennsylvania Pharmaceutical Association; John A. Lichty, New York State Medical Association.

Registered Guests

Arthur J. Bedell, Albany, N. Y.; Samuel W. Clausen, Rochester, N. Y.; George Draper, New York, N. Y.; Wells P. Eagleton, Newark, N. J.; Henry R. Geyelin, New York, N. Y.; William J. Mayo, Rochester, Minn.; Royd Ray Sayers, Washington, D. C.; Richard P. Strong, Boston, Mass.; John E. Talbot, Worcester, Mass.; Walter Timme, New York, N. Y.; Hugh H. Young, Baltimore, Md.

Registered Visitors

John A. Metzger, Los Angeles, Cal.; Phillip Marvel, Phillip Marvel, Jr., Atlantic City; J. B. Morrison, Recording Secretary, New Jersey Medical Society, Newark, N. J.; Raymond S. Crawford, New York, N. Y.; William B. Porter, Roanoke, Va.; Fred A. Bergdoll, Henry S. Klopp, N. W. Mills, Allentown; William B. Stuart, Carlisle; M. E. Kemerer, Davidsville; C. L. Carn, F. H. Garverich, S. S. Landis, A. A. S. Stuart, E. L. Walmer, Harrisburg; A. F. Frankhauser, Newville; C. Y. Detar, Oil City; E. L. Klock, Orwigsburg; J. E. Weigel, Pittsburgh; B. S. Davis, Plymouth; W. R. Glenney, Pottsville; S. B. Glick, Reading; F. V. Piccione, White Haven; F. L. C. Heikes, York; A. D. Barnhart, Youngwood.

Lady Visitors Registered

Adams—1	Greene—2	
Allegheny—23	Huntingdon—6	
Armstrong—1	Indiana—3	
Beaver—3	Jefferson—2	
Bedford—3	Lackawanna—12	
Berks—17	Lancaster—27	
Blair—5	Lebanon—6	
Bradford—8	Lehigh—8	
Bucks—1	Luzerne—17	
Butler—1	Lycoming—8	
Cambria—6	Mifflin—7	
Carbon—2	Montgomery—16	
Center—4	Montour—4	
Chester—9	Northampton—6	
Clearfield—6	Northumberland—2	
Clinton—2	Perry—2	
Columbia—4	Philadelphia—36	
Crawford—1	Schuylkill—7	
Cumberland—7	Somerset—3	
Dauphin—16	Venango—1	
Delaware—6	Warren—4	
Elk—1	Washington—5	
Erie—6	Westmoreland—1	
Fayette—2	York—19	
Franklin—3	Total—	342

THE AMERICAN MEDICAL DIRECTORY

The Ninth Edition of the American Medical Directory, just printed, marks a milepost in the progress of presenting official data regarding the medical profession in the form of a medical register. Work on this edition was begun in June, 1924. A letter and an information card was sent to each physician in the United States and Canada. Proofs of the directory pages were cut, pasted, and sorted, then sent to city and county correspondents for corrections and additions. Careful sifting of information was necessary, as often a physician who was reported to have moved or died was found to be practicing at a different address than the one given. At least one fourth of the physicians reported deceased proved to be still living. In many instances, the names of new physicians sent in proved on investigation to be those of osteopaths, chiropractors, etc., so that it was necessary to recheck practically all corrections, changes, and data added to the directory, unless received direct from the physician himself. It is for these several reasons that the Association has so earnestly requested each physician to notify the directory department of any changes, and especially to fill out and return the information card—no matter whether he has moved or not—before the directory is published. The directory is "proof-read" twice, but, in spite of the utmost care, errors creep in.

A number of new features appear in the ninth edition, such as hospitals providing approved residences in certain specialties, places where graduate courses in medical subjects can be obtained, etc., etc.

Immediately after the publication of one edition, preparations are made for the next. The type from which the last edition was published is held, and new names, changes of address, and other corrections are made. More than 600 changes of address are received weekly from the *Journal* mailing list, and the names of hundreds of new members and Fellows are added, while others are removed. The biographical file is today one of the most valuable records in the office of the Association. Inquiries from the medical profession regarding physicians are constantly received and answered.

The directory is being used more and more by busy physicians, medical directors, chief surgeons of industrial companies, and others to locate classmates, to obtain information regarding an author, to choose a physician or specialist from some other city, to select an examiner, to secure a list from which to address reprints, etc., etc. The information carried regarding health officers, hospitals, sanatoriums, and medical colleges has proved of great value and, for purely utilitarian reasons, the directory is indispensable to the medical profession. But it has an even greater value. It makes the medical profession a distinct entity. It definitely sets off the qualified licensed doctor of medicine from the thousands of healers and pseudo doctors abroad in the land. It tells the world who the M.D. is, where he is, and by what right he is an M.D.

When you are asked for information about yourself for the *American Medical Directory,* send it in promptly —and be sure that what you send is correct. This book is the biographical record of medical profession in these United States and in Canada.—From the *American Medical Association Bulletin.*

NOTICE OF EXAMINATION FOR ENTRANCE INTO THE REGULAR CORPS OF THE UNITED STATES PUBLIC HEALTH SERVICE

It has been recently announced by Surgeon-General Cumming of the U. S. Public Health Service that on December 7, 1925, examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service, will be held at Washington, D. C., Chicago, Illinois, New Orleans, Louisiana, and San Francisco, California.

Candidates must be not less than twenty-three nor more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written and clinical tests before a board of medical officers, and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the Senate.

Requests for information or permission to take this examination should be addressed to the Surgeon-General, U. S. Public Health Service, Washington, D. C.

THE

MEDICAL SOCIETY OF DELAWARE

OFFICIAL TRANSACTIONS

MINUTES OF THE HOUSE OF DELEGATES

TUESDAY, OCTOBER 13, 1925

The meeting of the House of Delegates was called in the Hotel duPont, Wilmington, Del., at 3:15 p. m. In the temporary absence of the president and vice-presidents, Dr. John Palmer took the chair.

The secretary, Dr. W. O. LaMotte, called the roll, the following delegates being present: W. O. LaMotte, secretary, Henry W. Briggs, J. S. McDaniel, W. V. Marshall, A. J. Gross, O. S. Allen, John Palmer, W. E. Bird, J. H. Niles, Lewis Booker, H. L. Springer, B. S. Vallett and T. H. Davies.

On motion, seconded and adopted, the reading of the minutes of the last session was dispensed with.

The president appointed on the nominating committee Drs. Davies, Bringhurst and McDaniel.

The secretary reported as follows:

The secretary's report this year is brief. There are 150 members at the present time, six more than last year, and eighteen more than the year before. An increase in membership, however, does not necessarily mean any progress in the Society.

The secretary attended the Conference of Secretaries in Chicago last November. There were interesting addresses and discussions, but when they are all boiled down, the problems of other state societies are found, in many instances, to be pretty much the same as ours, except on a much larger scale in membership and territory. It is sometimes inspiring to hear a president of a large medical society, but sometimes of a small society in a very large state, say he has visited in the year every county society.

The A. M. A. requires that the list of members be sent in by April first. It is recommended that our By-Laws be amended, requiring the county secretaries to send the list of members and their assessments some time before April first.

Respectfully submitted,

W. O. LAMOTTE, *Secretary.*

The treasurer's report was read as follows:

Receipts

1924					
Oct.	10	Balance on hand		343.55	
Oct.	23	Dues N. C. Co. Socy. ...	$4.00		
Oct.	23	Cannon Surgical Co.	10.00	14.00	
Nov.	11	Dues N. C. Co. Socy.		4.00	
Dec.	25	Dividend Dover Bank		24.50	
1925					
Apr.	1	Dues N. C. Co. Socy. ...		376.00	
Apr.	3	Dues Kent Co. Socy.	$88.00		
Apr.	3	Dues Sussex Co. Socy. ..	56.00		
Apr.	3	Dues N. C. Co. Socy. ...	12.00	156.00	
Apr.	13	Dues N. C. Co. Socy.	$16.00		
Apr.	13	Dues Kent Co. Socy.	4.00	20.00	
Apr.	24	Dues N. C. Co. Socy. ...		8.00	
June	6	Dues Sussex Co. Socy. ...		12.00	
June	30	Dues N. C. Co. Socy. ...		4.00	
July	9	Dividend Dover Bank		24.50	
July	15	Dues N. C. Co. Socy. ...		2.00	
July	31	Dues N. C. Co. Socy. ...		2.00	
Sept.	2	Dues N. C. Co. Socy	$ 8.00		
Sept.	2	Dues Sussex Co. Socy. ..	8.00	16.00	
		Interest		6.03	$1,012.58

Disbursements

1924				
Oct.	15	Hotel Windsor	$3.75	
Oct.	15	Sarah Banning, Soc. Luncheon ..	97.50	
Oct.	17	Milford Grange Hall (2 days) ..	20.00	
Oct.	17	O. V. James, Express charges ..	2.68	
Oct.	18	W. O. LaMotte, Secretary's expenses	16.75	
Nov.	11	Star Publishing Co.	26.75	
Nov.	11	W. E. Bird	2.65	
1925				
Jan.	23	A. L. Elliott, stenographic work	25.00	
June	25	American Medical Association, Directory	12.00	
Sept.	10	W. F. Donaldson, Atlantic Medical Journal	292.00	
Sept.	10	Equitable Trust Co., draft St. Louis Button Co.	9.10	
Oct.	2	Wilmington Savings Fund Soc., Defense Fund	146.00	$654.18
				$ 358.40
		Checks not in: No. 201 .. $27.50		
		No. 203 .. 6.00		33.50
		Balance on hand October 8, 1925 ..		$ 324.90

There is now a defense fund of $1,195.37 in the Wilmington Savings Fund.

Respectfully submitted,

SAMUEL C. RUMFORD, *Treasurer.*

A report of the councilors was called for, and Dr. Briggs made the followings remarks:

Mr. President: We have nothing very special to report. The councilors tried in every way to increase the membership of our local society, and we have succeeded in increasing it, as the report will show. I think there are still many more eligible men who should be invited to join our society. I expect to take the matter up by inviting such men as we think are eligible, especially now that we have broken into the ranks of the other school. I believe there are some Homeopaths who would join if they were asked. About six joined during the past year, and we hope by next year to have a half dozen or a dozen names submitted for election into our society. There is nothing more to report.

The report of the editor was called for, and Dr. Bird stated that it would be presented in the report of the Publication Committee.

Dr. Briggs being the only councilor present, the President pro-tem appointed Drs. H. W. Briggs, A. J. Gross, and Harold Springer as members of the Auditing Committee to examine the accounts of the treasurer.

President Wales now took the Chair.

Dr. Bird submitted the following report for the Publication Committee:

Your Publication Committee has very little to report. Our participation in the publication of the ATLANTIC MEDICAL JOURNAL for the past year has been one, we believe, of continued improvement. We have published in the Delaware Section of the Journal the transactions of the State Society, the papers read before that Society, some papers read before other societies, miscellaneous articles, and editorials. We have also contributed many book reviews to their columns.

Our relations with the Pennsylvania Society continue to be most cordial, and our intercourse with their Publication Committee, the former editor-in-chief, and the present acting editor, remains on the same high level of mutual respect and coöperation that has obtained heretofore.

The financial arrangements that prevail in this two-state undertaking are mutually agreeable.

We recommend to this Society that they continue their participation in the ATLANTIC MEDICAL JOURNAL on the present terms.

Respectfully submitted,
W. EDWIN BIRD, *Assistant Editor.*

It was moved and seconded that the report of the Publication Committee be adopted, including the recommendation that the Society continue its participation in the ATLANTIC MEDICAL JOURNAL on the present terms. Carried.

The question arose as to the distinction between the duties of the Medical Education Committee and the Committee on Health Problems in Education. Dr. Briggs suggested that the matter be left open for the present, and investigated.

Dr. Tomlinson reported for the Necrology Committee, stating that Dr. Stubbs was the only member of the Society who had died during the past year.

The president appointed Dr. H. W. Briggs to assist Dr. Tomlinson in drawing up resolutions on the death of Dr. Stubbs, to be submitted at the 136th annual session of the Society tomorrow.

The Auditing Committee reported that the accounts of the treasurer had been examined and found to be correct.

As delegate to the American Medical Association, Dr. LaMotte reported as follows:

Under the chairmanship of Speaker F. C. Warnshuis the sessions of the House were convened on time, business was promptly presented and referred, and there was no lost motion.

A new section of the Scientific Assembly, the Section on Radiology, was created.

The Section on Stomatology was abolished.

A resolution declaring for the abolishment of the tax on physicians under the Harrison Act was adopted, as was also one favoring the deduction from income-tax returns of travel expense incurred in attending courses of graduate study. The House adopted a resolution from Ohio providing that telephone companies be asked to establish the heading "Physicians and Surgeons, M.D." for classified lists of physicians and surgeons in telephone directories.

Dr. Wendell C. Phillips of New York was unanimously elected President-Elect.

Dallas, Texas, was selected as the place of meeting for 1926.

Respectfully submitted,
W. O. LAMOTTE, *Delegate.*

It was moved and seconded that the report be accepted as read.

For the Committee on Federation of State Medical Boards, Dr. Briggs reported as follows:

I attended the meeting in Chicago last March, and the particular things which were discussed and on which papers were read, were the getting together of the medical teachers with the medical examining boards, and the attempt to limit medical examinations to certain phases of each subject in medical education. In other words, the teachers of the medical colleges thought that it was absolutely impossible to educate a man in four, or even five or six years, to come up for a general examination covering the whole range of subjects. They drew up resolutions asking the medical boards of the United States to limit their questions to certain fields; viz., anatomy, physiology, hygiene, etc. Personally, I was very much in favor of it. As a matter of fact, there might be a certain thing picked out that the candidate would not know anything about. But the majority of the states were not in favor of this measure and it did not go through. There is now pending a conference which will probably limit the examinations to certain fields in medical education, which I personally feel is right.

Another question discussed was the enforcement of our state medical-practice acts, and the method by which it should be done. One of the best articles read was published in the *Journal of the A. M. A.* It cited the occasion when they attempted to put through the medical-practice act in the State of Texas. They finally put it over, and the way they did it was by education and publicity. They have raised their fees to $50 a year, and have employed excellent physicians to go about the State educating the people along perfectly ethical lines. When this bill was brought before the Texas Legislature, they had exhibits of patients who would tell the stories of their cures, and have medical men there to refute them on the spot. One child said she was unable to walk for three years. She went to a chiropractor and after nine months of treatment she could walk a little.

It was proved that a surgeon had on three different occasions removed tubercular bone, and had they kept on with this doctor and had the child properly treated with a cast or brace, she would have been perfectly well instead of only partly well.

So far as medical education is concerned, it has reached a very satisfactory and very substantial status. There is a total of 80 medical colleges in the United States: 70 are in class A; 3 in class B, but fast becoming class-A colleges (one of our own school, one homeopathic, and one eclectic); the other 7 might be described as nondescript, and they are not accepted in any of the states where the examining boards have discretionary powers. Most of the states have a provision whereby the authorities make the decision. The number of medical schools has been reduced in the last few years from 160 colleges to these 73, which are all standard and good. In that respect our profession really is in a very satisfactory condition.

Upon motion, seconded and adopted, the report of Dr. Briggs was accepted.

Dr. Tomlinson offered the following resolution, which was adopted:

WHEREAS, our first vice-president, Dr. Roland G. Paynter, has since early spring been a great sufferer from neuritis, the result of a focal infection starting in a diseased tooth, leading to further infection of the left antrum requiring an operation, at which time a tonsillectomy was also done, and

WHEREAS, Dr. Paynter is yet in the Jefferson Hospital, where he is making a tedious but satisfactory recovery; be it

Resolved, that we, members of the Medical Society of Delaware, in annual convention assembled, hereby express our deepest sympathy with our fellow member in his affliction, and our very great pleasure in knowing of his steady improvement, and be it further

Resolved, that a copy of this resolution be forwarded to Dr. and Mrs. Paynter at the Jefferson Hospital.

Secretary LaMotte read a letter from the Rev. Dr. Vrooman expressing regret at not being able to attend the annual meeting, to deliver the invocation.

Secretary LaMotte read a communication from the American Medical Association relative to periodic health examinations, and it was approved that 150 copies of the pamphlet referred to in this communication be purchased by the Medical Society of Delaware, and a copy sent to every member of the Society.

A communication containing a model copy of a Constitution and By-Laws, from Dr. West of the American Medical Association, was read. It was decided that the matter be laid on the table, as our Society adopted new By-Laws only three years ago.

Secretary LaMotte read a communication from the American Peace Award regarding the World Court, and it was moved that the matter be laid on the table.

Motion seconded and carried.

President Wales then read a communication from United States Senator Coleman duPont, regarding deduction from physicians' income-tax reports of the $3.00 fee imposed by the Harrison Narcotic Act, and traveling and other expenses incurred in taking postgraduate courses and attending medical conventions. After much

discussion, the matter was referred to the Committee on Public Policy and Legislation.

The Nominating Committee reported the following nominations:

First Vice-President, Olin S. Allen.
Second Vice-President, Richard Beebe.
Secretary, W. O. LaMotte.
Treasurer, S. C. Rumford.
Councilors, H. W. Briggs, I. J. MacCollum, O. V. James.
Delegate to A. M. A., W. O. LaMotte.
Alternate to A. M. A., W. E. Bird.
Delegate to Maryland Society, Jos. P. Waples.
Delegate to Pennsylvania Society, Julian Adair.
Delegate to New Jersey Society, B. S. Vallett.
Delegate to New York Society, D. F. Davidson.
Delegates to State Pharmaceutical Society, C. J. Prickett, J. H. Hammond, J. W. Butler.
Committee on Scientific Work, Samuel M. Marshall, H. M. Manning, L. Heisler Ball.
Committee on Public Policy and Legislation, V. D. Washburn, I. J. MacCollum, J. R. Elliott.
Committee on Medical Education, H. W. Briggs, I. L. Chipman, James Beebe.
Committee on Necrology, P. W. Tomlinson, J. K. Hocker, L. A. H. Bishop.
Committee on Publication, W. E. Bird, Albert Robin, W. O. LaMotte.
Committee on Health Problems in Education, H. W. Briggs, A. T. Davis, J. Roscoe Elliott, J. A. Ellegood, Fred F. Armstrong.
Hospital Committee, John W. James, Wm. Marshall, Victor D. Washburn.

Names to be submitted to the Governor for his selection of two as members of the Medical Examining Board: H. W. Briggs, Wm. Wertenbaker, Harold Springer, Geo. Frank Jones, Jos. S. McDaniel, Joseph Bringhurst, L. S. Conwell, J. D. Niles, J. W. Bastian and J. K. Frame.

Upon motion of Dr. Briggs, which was seconded and carried, the expenses of this meeting were approved, and the treasurer directed to draw checks for the various amounts.

Dr. Bringhurst moved that Dover, Del., be selected as the meeting place for the next annual session to be held on the second Tuesday and following Wednesday of October, 1926.

Motion seconded and carried.

Dr. McDaniel next brought up the subject of "Dr." Heimark, a chiropractor who is at present the plaintiff in a suit against a Mrs. Joseph Sparks for nonpayment of a bill, and stated that as this is a clear case of a chiropractor practicing in the State without a license, the Kent County Medical Society had engaged the services of Mr. James M. Satterfield, attorney, to prosecute "Dr." Heimark.

The following resolution, offered by Dr. Briggs, was adopted:

Resolved, that the Medical Society of Delaware approves the action of the Kent County Medical Society in employing counsel to prosecute O. M. Heimark for practicing medicine without a license, and be it further

Resolved, that any financial aid necessary be given to the Kent County Medical Society.

Upon motion, seconded and carried, the meeting adjourned at 5:15 p. m.

W. O. LAMOTTE, *Secretary*.

IN MEMORIAM

The following resolution was adopted at the general meeting of the Society, held at Wilmington, October 14, 1925:

WHEREAS, in the course of human events, Dr. Henry J. Stubbs, of this city, was on the thirtieth day of April, 1925, called to his final reward, after a happy life of fourscore years of loyalty to God and his fellowmen; and was for over forty years an active and honored member of the Medical Society of Delaware, and

WHEREAS, in his death we have lost a beloved brother; be it

Resolved, that we bow in humble submission to the Divine Will, and hereby record our sincere sorrow for this loss and our sympathy for his bereaved family; and be it further

Resolved, that these resolutions be recorded in the minutes of this Annual Meeting of our Society, and that a copy of said resolutions be sent to his bereaved wife and daughter.

BOOKS RECEIVED

DISEASES OF THE NOSE, THROAT, AND EAR (Medical and Surgical). By William Lincoln Ballenger, M.D., late Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois, Chicago. Revised by Howard Charles Ballenger, M.D. Fifth edition, illustrated with 551 engravings and 32 plates. Philadelphia and New York: Lea & Febiger, 1925. Price $10.00.

LISTER AND LIGATURE. A landmark in the history of modern surgery. Compiled by the Research Readers of the Scientific Department, and published by Johnson & Johnson, New Brunswick, N. J.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month). Volume V, Number IV. (Chicago Number—August, 1925.) Two hundred and forty-six pages with 54 illustrations. Per clinic year (February 1925 to December 1925). Paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.

AN INTRODUCTION TO OBJECTIVE PSYCHOPATHOLOGY. By G. V. Hamilton, M.D., Director of Psychobiological Research, Bureau of Social Hygiene, Inc., New York City, N. Y. With Foreword by Robert M. Yerkes, Ph.D., LL.D., Professor of Psychology, Yale University. St. Louis: The C. V. Mosby Company, 1925. Price $5.00.

THE ART OF MEDICAL TREATMENT. With reference both to the patient and to his friends. By Francis W. Palfrey, M.D., Visiting Physician, Boston City Hospital; Instructor in Medicine, Harvard University. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $4.50 net.

ARTERIOSCLEROSIS. A Summary View. By the late Rt. Hon. Sir T. Clifford Allbutt, P.C., K.C.B., M.A., M.D., Regius Professor of Physic in the University of Cambridge; etc. Macmillan and Co., Ltd., St. Martin's Street, London, 1925.

AN INTERMEDIATE TEXTBOOK OF PHYSIOLOGICAL CHEMISTRY WITH EXPERIMENTS. By C. J. V. Pettibone, Ph.D., Associate Professor of Physiological Chemistry, Medical School, University of Minnesota, Minneapolis. Third edition. St. Louis: The C. V. Mosby Company, 1925. Price $3.25.

INTERNATIONAL CLINICS. A quarterly of illustrated clinical lectures and especially prepared original articles. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume III. Thirty-fifth series, 1925. Philadelphia and London: J. B. Lippincott Company.

MODERN MEDICINE. Its Theory and Practice in Original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M.D., F.R.S. Third Edition, Thoroughly Revised. Reëdited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Volume I—Bacterial Diseases—Nonbacterial Fungus Infections—the mycoses. Illustrated. Philadelphia and New York: Lea & Febiger, 1925. Price $9.00.

The Dietetic Value of Gelatine

Receives Highest Recognition

The edition (6th) of "Diet in Health and Disease" by Dr. Julius Friedenwald and Dr. John Ruhräh, published by W. B. Saunders Company, Philadelphia, contains the following tribute to the value of Gelatine in feeding infants and children.

"JACOBI in 1879 suggested the use of Gelatine in infant feeding, and it has been used some ever since, but only recently has the real value of Gelatine in the diet been made more widely known. It is very useful in rendering milk mixtures more digestible, preventing both gastric and intestinal indigestion by preventing the large, hard curds. Where the appetite is poor, the addition of Gelatine makes the milk more palatable for some children. It is of value in infants who regurgitate or vomit their food, in diarrhea, particularly where there is putrefaction. It is useful where gas is formed, either in the stomach or the intestines, and in fermentative conditions in general. It is useful in preventing colic in some babies, and in the breast-fed may be given in solution just before feeding. In infants who are constipated and who have large, hard stools which do not adhere to the napkin, the addition of Gelatine to the formula usually corrects the difficulty. It is of great value in celiac disease, not only in supplying additional much-needed food, but in correcting the accompanying indigestion. In malnutrition the addition of Gelatine to the dietary is of great value, as it is in those who have lost weight through operations, fevers, or other illnesses. It has also been suggested in scurvy."

Knox Sparkling Gelatine—highest quality for health—is the purest form of plain granulated Gelatine, produced by the most scientific methods, and under constant bacteriological and chemical laboratory control. It contains no artificial flavoring—no sweetening.

In prescribing Gelatine for the diet, physicians should be extremely careful to specify *Knox Sparkling Gelatine.*

The physician's reference book of nutritional diets with recipes will be sent free to physicians or hospitals, upon request, if they will address the Knox Gelatine Laboratories, 415 Knox Ave., Johnstown, N. Y.

In addition to the family-size packages of "Plain Sparkling" and "Sparkling Acidulated" (which latter contains a special envelope of lemon flavoring), Knox Sparkling Gelatine is put up in 1 and 5 pound cartons for special hospital use.

KNOX
SPARKLING
GELATINE

"The Highest Quality for Health"

Free from harmful acidity, artificial coloring, and synthetic flavoring.



BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

OLD AND NEW VIEWPOINTS IN PSYCHOLOGY. By Knight Dunlap, Professor of Experimental Psychology in the Johns Hopkins University. St. Louis: The C. V. Mosby Company, 1925. Price $1.50.

This small volume consists of five lectures on psychological topics. The first one, on mental measurements, deals chiefly with general intelligence tests. The second, "present-day schools of psychology," treats of behaviorism and introspectionalism, "functional" and "structural" psychology, psycho-analysis and Freudism, etc. The third chapter is on spiritualism, and treats of such questions as why spiritualism finds such eager credence among many people, why well-known scientists should have endorsed such dubious ideas, and whether mediums are ever sincere or self-deluded.

The chapter on "reading of character" ranges from phrenology to vocational tests, and discusses the possibility of evolving a scientific system of character measurement. The chapter on the "psychology of the comic" is a good presentation of this much-discussed topic and is clear and convincing, although some readers will be startled to learn that "to those who enjoy them, the 'comic strips' and the custard-pie comedies are actually elevating and refining....."

SYNOPSIS OF MIDWIFERY AND GYNECOLOGY. By Aleck W. Bourne, Senior Obstetric Surgeon, Queen Charlotte's Hospital, London; Obstetric Surgeon to Outpatients, St. Mary's Hospital, London; etc. Third edition, revised and enlarged: with numerous diagrams. New York: William Wood and Company, 1925. Price $4.50.

This compend on these subjects is quite complete as to diagnosis. It provides a very handy and reliable reference book for the student and busy practitioner. In most respects very conservative, many of the newer things just now attracting attenion in medical magazines and medical meetings are not mentioned. In the discussion of puerperal sepsis, mercurochrome and other chemical disinfectants have no place. Other omissions are Potter's version and Kieland's forceps. The procedures of massaging engorged breasts and delaying operation in ruptured uteri reflect the influence of the older textbooks.

In the second part devoted to gynecology, the author states that organotherapy is useless in the natural menopause, but of distinct value in postoperative treatment. He suggests hysterectomy for dysmenorrhea. He confuses syphilis of the vulva and esthiomene even worse than American authors. The section regarding local treatment for endocervicitis is unusually well stated. He still curets for so-called endometritis, and does not mention the possibility of spreading infection, using salpingostomy in acute salpingitis by preference.

THE NEWER KNOWLEDGE OF NUTRITION. By E. V. McCollum, Ph.D., Sc.D., Professor of Chemical Hygiene in the School of Hygiene and Public Health, of the Johns Hopkins University, Baltimore, Md., and Nina Simmonds, Sc.D., Associate in Chemical Hygiene in the same school. New York: The Macmillan Company, 1925.

In October, 1922, the *Pennsylvania Medical Journal* expressed its high appreciation of the second edition of this work. We recommend the third edition even more highly than we did the second. Our principal criticism of the second edition was that the work might have been more abridged, and this is true also of the third edition, although there has been an evident attempt

(Continued on page xviii.)

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BOOK REVIEWS

(Continued from page xvi.)

to reduce the unnecessary volume of the book. Textbooks for medical students and practitioners should have demonstrations enough to make their points clear, but no unnecessary arguments or repetition. The preface of this third edition states its aims to be "a comprehensive treatise on nutrition." Such a book is greatly needed, but it seems to the reviewer that the present work, which has been honestly revised and largely rewritten, in stressing the importance of vitamins and mineral foods, places these subjects somewhat out of perspective with the other dietary properties of foodstuffs—as for building materials, fuel foods, solvents, diluents and vehicles. The reviewer does not underestimate the great importance of the introduction of the biological method in the study and teaching of dietetics. The biological method is the foundation of modern physiology and modern dietetics. Dr. McCollum deserves great credit for what he has done towards the establishment of the value of this method. It is based upon the fact that wisdom springs from doubt, the observation of natural phenomena, and from experimentation, not from the study of tradition.

The rewriting has meant recasting the style of the book, and it has been made much more readable. The reading of the captions of the chapters is highly alluring, particularly when the reader may be confident that all statements are absolutely dependable and embody the latest truths obtainable.

The following quotations are from the Table of Contents: A New Era in Nutrition; A Biological Method; Dietary Properties of Individual Foodstuffs; Deficiency Diseases; Vitamins; Iodin and Goiter; Nursing Mother; Diet in Relation to Teeth; Diet and the Resistance to Disease; New Viewpoints in Human Nutrition.

The carefully prepared index adds much to the value of the book for reference. The alphabetical arrangement of the exhaustive bibliography at the end of the book as a bibliographic index instead of at the end of each chapter is a great improvement.

This book belongs on the ready-reference shelf of every practicing physician or teacher of dietetics or physiology.

GYNECOLOGIC UROLOGY. By Lynn Lyle Fulkerson. P. Blakiston's Son & Co., Philadelphia.

As stated in the preface, "this book is devoted to the technic of endoscopy and cystoscopy in the female and the diagnosis and treatment of the commoner diseases of the urological tract." The idea of the author is to present "the essentials of gynecologic urology in a form that should enable students quickly to acquire a working knowledge of the subject." Hence this very efficient and eminently practical volume of 247 pages. A book devoted to this subject must have the text lucidly illustrated, and the author is to be congratulated in this regard.

In the paragraph on mercurochrome, the author truly states: "It would consequently appear that recognized medical schools should submit drugs synthetized in their laboratories to unbiased clinical test in other institutions before permitting their exploitation by commercial houses." The bibliography given at the end of each chapter is of value. This volume is unhesitatingly recommended to every one interested in urology.

A MANUAL OF GYNECOLOGY. By John C. Hirst, M.D., late Associate in Obstetrics, University of Pennsylvania. Second Edition, Revised. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $3.50 net.

Into this new and thoroughly revised edition the late Dr. Hirst has inserted the experience gained from an extensive practice. The book not only will be of practical

(Continued on page xx.)

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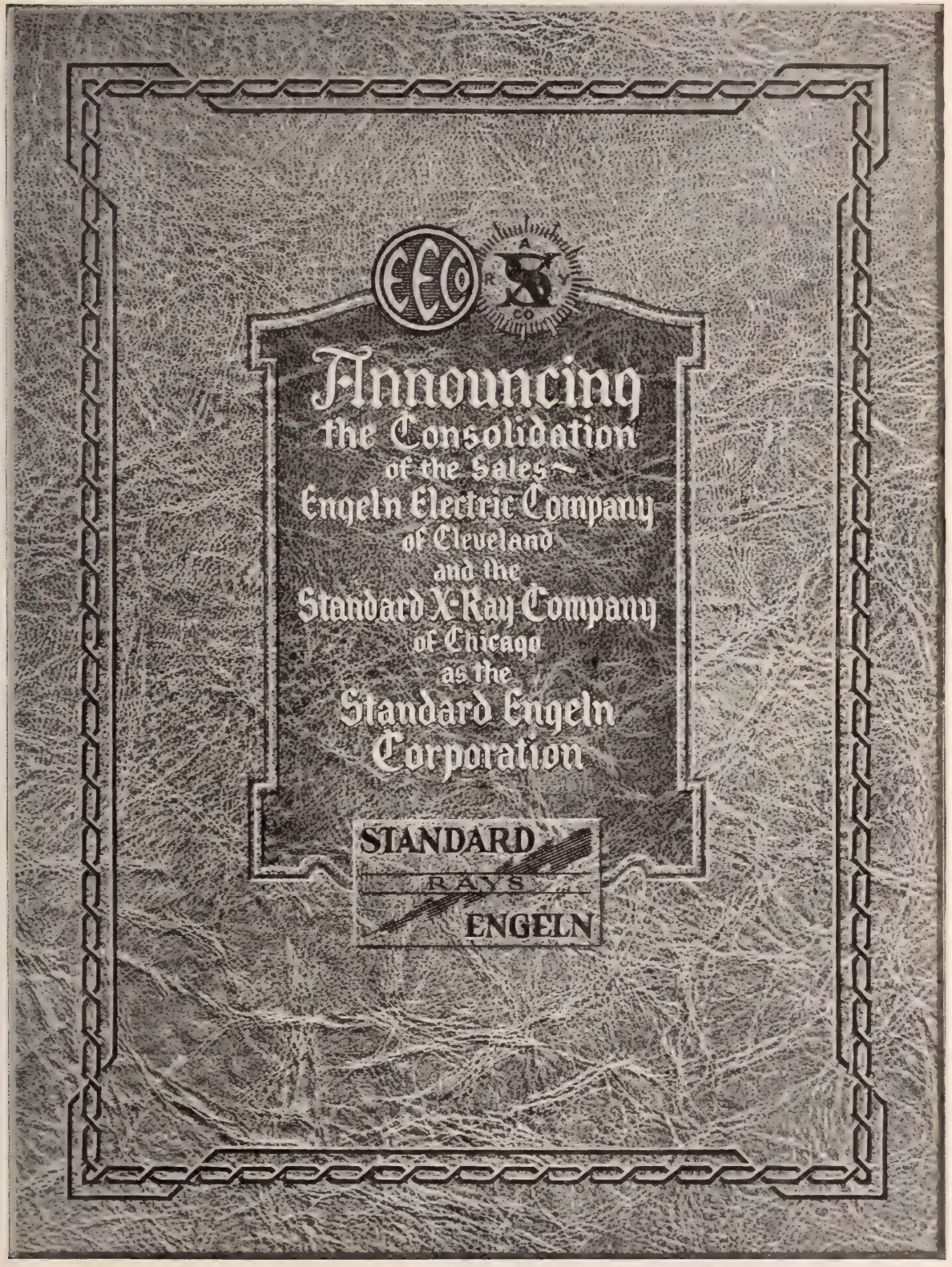
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BOOK REVIEWS

(Continued from page xviii.)

use to the student, but also to the busy practitioner, and this aim has been fully achieved, as is the hope of the author.

The chapter on office treatment is very complete. The only criticism to offer is the reference made to the use of the uterine sound. Any reference to the use of this archaic instrument should be unqualifiedly to condemn it. The physician should realize that there is a great deal of office gynecology, and this chapter will afford him a safe guide to the proper treatment.

The chapter on sterility fully explains the Rubin and Hühner tests. The chapter on diseases of the urinary tract, including cystoscopy and pyelography, is commendatory. The chapter on electricity, x-ray, radium (mesothorium), the Finsen light, and diathermy affords much valuable instruction. The chapter on endocrinology is rewritten, and well condenses this very timely subject. The chapter on the treatment of complications after operation is terse, and contains many valuable suggestions.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. Third Series. Volume forty-six. Philadelphia, Printed for the College, 1924. Pages 1 to 892, inclusive.

This volume of transactions contains the papers read before the College from January to December, 1924, inclusive. All of the scientific papers are of more than passing interest. The proceedings of the Section on Ophthalmology, Otology and Laryngology, the Section on General Medicine, and the Section on Public Health and Industrial Medicine, together with the papers presented at the general meetings of the College, are worthy of study.

The personal touch, as represented by the list of presidents, officers, fellows, corresponding members, memories, etc., adds to the sectional value of the publication.

The printing and binding are of the usual high order that characterizes these publications.

PREVENTIVE MEDICINE. By Mark F. Boyd, M.D., C.P.H., Member of Regular Field Staff, International Health Board of Rockefeller Foundation; formerly Professor of Bacteriology and Preventive Medicine in the Medical Department of the University of Texas. Second edition, revised. Octavo volume of 429 pages with 135 illustrations. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $4.00 net.

This work is an endeavor to present the salient features of modern preventive medicine in a brief, condensed form, the idea being to afford the medical student or practitioner the essential minimum knowledge of the subject that either should be expected to possess. It is sectioned into: Diseases due to Invading Microörganisms-Epidemiology; Deficiency Diseases; Occupational Diseases; Diseases arising from the Puerperal State; Diseases Transmitted from Parent to Offspring; Special Aspects of Hygiene and Sanitation; Demography; and Public Health. At the end of each chapter appears a bibliography for the benefit of those desiring a fuller knowledge of the various subjects considered. The treatment of the subject is well-balanced, and not overenthusiastic, defects as well as values of present public health efforts being pointed out. The administration of public health by medical men who are not expert sanitarians or by inexperienced politicians is deservedly scored, although we believe the wrath of Achilles conjoined with the scolding of Thersites would avail little to awaken the dominant powers in politics in the states (outside of New York, Massachusetts, and Minnesota) from their criminal apathy, sufficiently to adopt legislation in step with modern medical progress.

(Concluded on page xxii.)

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BOOK REVIEWS

(Concluded from page xx.)

We extol this work as a complete and handy condensation for initial study and ready reference, the index being all that could be desired.

We regret that so deserving a work, so painstakingly brought up to date, should be marred by many errors in spelling, as "scruplous," "develope," "Concommitant," "arsensical," "contaning," liscensure," "caracasses," "indespensable, to name a few. The work is splendidly illustrated, and the many tables instructive, but we are still losing sleep in the effort to guess the state abbreviated, on page 401, "Ann."

We cannot agree with the author that outside of the Mosaic law, the ancients were in complete sanitary darkness. Feuerbach cites the Persians as punishing with death the pollution of a stream, and history records that Epaminoidas made as great a success as street commissioner in Thebes, as at the head of the Theban army, routing the filth and dirt as efficiently as he did the Spartans when "all Greece looked upon Thebes as lost." Several Pennsylvania cities could well be seeking ancient Epaminoidases to clean up their nasty streets and alleys efficiently.

Books are tools, doctors are craftsmen, and so truly as one can measure the development of any particular handicraft by the variety and complexity of its tools, so we have no better means of judging the intelligence of a profession than by its general collection of books. A physician who does not use books and journals, who does not need a library, who does not read one or two of the best weeklies and monthlies, soon sinks to the level of the cross-counter prescriber, and not alone in practice, but in those mercenary feelings and habits which characterize a trade.—From *The Life of Sir William Osler,* by Harvey Cushing. Vol. I.

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THE TWILIGHT ZONE OF MEDICINE*

WILLIAM J. MAYO, M.D.
ROCHESTER, MINNESOTA.

On a day long ago, June 5, 1881, there was gathered around the compound of the little farm of Pouilly le Fort, near Melun, a concourse of French savants and officials and interested observers to learn the results of Pasteur's attempt to solve the problem of the fatal scourge of anthrax which was devastating the sheep and cattle of France. The test had been made with fifty sheep and ten cattle. On May 5th, twenty-five sheep had been vaccinated and turned in with twenty-five unvaccinated sheep; six vaccinated cattle were placed with four unvaccinated. The second inoculation, with virus of increased strength, had been made May 17th, and the third May 31st. For days after each inoculation, the spectators, nearly all skeptical, and unfriendly to Pasteur, had stayed about the enclosures, only to be convinced in the final dramatic moment by seeing with their own eyes the twenty-five vaccinated sheep perfectly normal, the twenty-five unvaccinated dead; the six vaccinated cattle undisturbed, the four unvaccinated dying.

With this spectacular triumph of Pasteur came the popular recognition of the germ theory of disease, the greatest event in science in the history of mankind. Pasteur's power consisted in the application, to the elucidation of complex problems, of the exact methods of bacterial chemical and physical research. With the prescience of genius and infinite capacity for taking pains, he had accomplished the almost impossible. We are still far from the end of the experimentation which leads to a realization of the relations of microörganisms to human life.

It is worthy of note that the evidence presented by Pasteur throughout his work was visual. In the last analysis, his discoveries were triumphs of the eye, aided by the microscope and other means of visualization. The unaided eye of man is relatively slow in perception, having neither the acuteness nor the length of vision of the eyes of many lower orders of life. That the hand is quicker than the eye has been demonstrated beyond peradventure. It is not the eye mechanism, but the eye brain of man which is triumphant. Direct pathways exist from the eye to the thinking and analytical parts of the brain, and even memory is largely the result of visual impressions. Through the eye come knowledge and wisdom.

Improvements in the microscope have led to an understanding of the gradations of minute particulate matter, but while the limit of the power of the microscope in obtaining evidence has not been reached, it seems near. The best microscope may reveal the form, color, and other characteristics of objects down to 1/10 micron or 1/250,000 inch in diameter, and disclose that these particles are subjected within their mediums to the ordinary physical laws of pressure, temperature, and atmospheric conditions, and to the law of gravity.

So much for particles large enough to be seen by the microscope. Compared with the particles in the molecular field, the atom and the electron, those visible with the microscope are of huge size. To accept the ancient but still-tenable doctrine or formula: a molecule is the smallest part of substance which retains definite composition; it is composed of atoms. The upper limit of molecular size for crystalloids is 1/25,000,000 inch. Described in terms of electricity, the atom is made up of a positive nucleus of one or more protons, and one or more negative electrons in rapid motion around the nucleus. The positive core may be said to be the electric center of gravity toward which the negative electrons are constantly pulled. These facts constitute our actual knowledge of electricity. The smallest atom, that of hydrogen, is made up of one electron revolving around one proton. An atom of carbon has twelve protons and twelve electrons, an atom of oxygen sixteen protons and sixteen electrons, an atom of gold seventy-nine of each, and an atom of mercury eighty of each. The dream of the alchemist was fulfilled by Miethe, who was able to extract one electron from the atom of mercury, converting the atom into gold.

As Sir William Bayliss pointed out, the sci-

*Address delivered before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

ences of physics and chemistry are so closely related as to be almost inseparable, since only under certain physical conditions can there take place electric exchange of electrons and protrons in the atomic field. There are about the nuclei of the atoms free or loosely attached electrons, called valence electrons, and it is variation in their arrangement which results in the alteration in the constitution of the molecule that is called a chemical change. Chemical changes are eventually measured by visual means. Experimentally, we have knowledge of the molecular field, and here again the evidences depend on vision.

Ultramicroscopic analyses are the result of reflection on the lines of the spectrum of rays of electromagnetic vibration. The shortest ray of electromagnetic vibration is the gamma ray from radium, 1/1,000,000,000 inch in length. The next is the x-ray, which is about 1/100,000,000 inch in length.

Molecular substances are smaller than the light wave and therefore do not reflect light, but they are larger than the electromagnetic vibrations of the x-ray, and therefore reflect their rays. With these vibrations Moseley did his extraordinary scientific work in classifying, weighing, and describing the atom and electron. By the same means it became possible for Bohr, Thomson, Ashton, and many others to obtain exact information of the atomic world after Crookes with his tube produced the cathode ray, which he suggested might be a fourth dimension of matter.

In this ultramicroscopic world which lies between the division of matter visible to the eye aided by the microscope and the molecular field, lies the twilight zone of modern medicine, the colloids. This intermediate division of matter contains particles between 1/10 micron (or 1/250,000 inch) and 1/1,000 micron (or 1/25,000,000 inch) in diameter. Investigation of this field has been greatly aided by the ultramicroscope, which, acting as a mirror, catches the light reflected by minute bodies larger than the light ray. If a pencil of light is thrown through a solution of the crystalloid, sodium chlorid, which is in the molecular field, it will pass through without diffraction, while if passed through even the finest of colloid suspensions, in which the particles are larger than in a molecular solution, the light will diffuse. Colloids, therefore, refract light, while molecular substances like the crystalloids do not.

While Brown, the English botanist, in 1827 made communications regarding minute moving bodies which could be seen in a pencil of light thrown into a dark room, but without physical evidence otherwise, and showed that with the microscope similar movements could be seen in certain types of liquids, it was not until 1861 that Graham, Master of the Mint in London, by a most interesting series of experiments, largely by filtration through parchment paper, proved the existence of bodies of definite characteristics but too small to be appreciated by the eye. His study was largely of bodies in liquid mediums, and since the fluids with which he experimented were rather sticky, he named them colloids, from the Greek word for glue. These infinitesimal moving objects, so small as to be little affected by gravity, on the boundary of the realm of physics, give the eye alone or aided by the microscope none of the evidences as to shape and size which have been heretofore demanded by science as the acid test. Tyndall pointed out that the phenomenon called smoke was the refraction of rays of light on these minute bodies suspended in the dry air, and that the same objects suspended in watery vapors gave rise to beautiful sunsets, the rainbow, and the aurora borealis, which is due to refraction of light on water in a colloid state suspended in frigid air.

It is impossible to do more than touch on the enormous amount of scientific work whch has been done in the colloid field in the last fifty years. Research in colloid chemistry in recent years has brought about great advances in the industries and in agriculture, and all branches of the arts have been practically transformed. We perhaps stand to-day facing the twilight zone of a new ultramicroscopic world of science much as the French savants stood that day when Pasteur demonstrated beyond doubt the existence of a world to which the microscope was the key.

When Graham did his work in dialysis through parchment paper, it was the subject of much discussion under the general title of osmosis. In the early stage of our knowledge, it was believed that living substances were all too large to be filtered. Rosenow has been able to obtain a filtrable streptococcus virus, and from it, by proper culture mediums, to grow the original bacteria; that is, make the ultramicroscopic virus develop into the microscopic organism.

Color produced *en masse* by dyes has afforded one of the most important methods of recognition of the minute in the ultramicroscopic field. Colors are simply relative rates of speed, as recognized by the eye. There are visible to the human eye those ultramicroscopic vibrations which we speak of as rays of light, ranging in length between 0.770 millimicron and 0.390 millimicron, the slowest of which is red, and the others in order of speed and length of ray, orange, yellow, green, blue, and violet. Perkin,

in 1856, working in the Royal College of England in London, discovered the dyes, in which he was unable to interest England. His student, Hoffman, took the new knowledge with him to Germany, where it was developed and became one of the causes of the Great War, since it gave the Germans not only early knowledge of dyes but also clues to the various gases and explosives which are characteristic of this group of substances. Evans has shown that the rate of elimination of all dyes from the blood stream, when introduced intravenously, is in direct relation to the size of the molecule of the dye.

Abel and Rowntree in 1909, and Rowntree and Geraghty in 1910, experimenting with the elimination of anilin dyes from the kidney, discovered phenolsulphonephthalein. They found that this dye was passed through the kidney about as urea; in other words, the molecule of phenolsulphonephthalein was the same size as the molecule of urea and therefore would afford a fairly accurate test of the ability of the kidney to filter urea from the blood. That dyes are more or less specific in their filtrability was shown by the discovery of Rowntree that phenoltetrachlorphthalein is excreted entirely through the liver with the bile. From this fact have come two valuable clinical procedures. Rosenthal used this dye to test the filtering capacity of the liver, and developed what is perhaps the best gauge we have of hepatic function. Graham, by using the sodium salt of phenoltetrabromphthalein, making it opaque to the x-ray, produced those shadows, which, interpreted by Graham, Carman, and others, have given valuable knowledge of diseases of the gall bladder.

Photography, being so much quicker than the eye, has been one of the most valuable methods of recording evidence and making visible to the eye with mathematical certainty the colloid field. The United States Bureau of Weights and Measures has developed a photoshadowgraph which requires but 1/1,000,000 second to record an impression. This instrument will show a bullet in flight. What was formerly described rather vaguely is now visible.

We could have no better illustration of the relation of chemistry to physiology than that provided by brief study of foods. The most important substance in the world is chlorophyl, the green coloring matter of plants, which converts the sun's rays into a mechanism that breaks down matter of the inorganic world and builds it up into new combinations of the organic world. All life is the result of the oxidation of carbon. There is no fundamental difference between the heat produced in the furnace by coal and the heat produced in the body by food, except in the rate of combustion which is determined by the molecular arrangement of the fuel. Foods may be divided into three simple classes: carbohydrates, fats, and proteins. All contain carbon, hydrogen, and oxygen, in different molecular arrangements. The proteins contain also a small amount of nitrogen and a little sulphur, which form the combinations that give form and substance by permitting the deposition of other substances, for instance, calcium. The human body, therefore, is a colloid mechanism in which molecular changes take place. In the obscure twilight of these changes life resides.

The carbohydrates are converted in the final metabolic process in the liver into glucose, $C_6H_{12}O_6$, and a certain portion into glycogen, which is stored in the liver and elsewhere. This substance is merely glucose with one molecule of water abstracted, the formula being $C_6H_{10}O_5$. Carbohydrates are oxidized in the body as glucose. The glycogen stored in the liver is readily reconverted into glucose as needed. The excess carbohydrates are deposited throughout the body as fats. Of the energy produced in the body, only 25 per cent is under the control of the will. The remaining 75 per cent maintains the body temperature and the action of the heart, the lungs, the intestinal tract, and the vegetative system generally. Carbon, the common coal of our existence, is burned in the colloid mechanisms by the oxygen carried by the red blood cells, the hemoglobin of which contains one atom of iron to each molecule, the ash being eliminated as carbon dioxid through pulmonary ventilation.

While the fats largely have their origin in carbohydrates, the molecule of fat (glycerin stearate) contains but six atoms of oxygen to fifty-seven atoms of carbon and 110 atoms of hydrogen, and cannot to any appreciable extent (less than 10 per cent) be reconverted into glucose. The process of breaking down the fats, producing heat, energy, and water, is slow. This explains the state of certain animals during hibernation; when their temperature drops to the normal of cold-blooded animals, around 50° F., there is a general abeyance of function, and life is maintained by the slow oxidation of their autumnal fat.

Unfortunately, without the addition of glucose, fats cannot be completely burned. If glucose is not obtainable from ingested carbohydrates or proteins, and the stored glycogen in the liver is exhausted, glucose can only be obtained by breaking down deposit proteins and tissue proteins, 58 per cent of which can be converted into glucose, but breaking down of the protein molecule releases into the blood stream an excess of nitrogen, which we recognize as

urea. The normal urea content is 26 mg. to 100 c.c. of blood. When this amount is greatly increased, the kidneys may fail to eliminate the excess urea and uremia may result. Therefore, while ingested proteins are valuable food, breaking down the constituent body-tissue proteins to maintain energy and heat carries a very distinct danger.

It may seem that part of this summary is ultrascientific. As a matter of fact, insight into physicochemistry is of the greatest practical value in a proper understanding of the physiology of life.

The application of physicochemistry to certain abnormal physical conditions often met by the physician and the surgeon clearly illustrates this truth. From a large series of cases, I will cite briefly four, illustrative respectively of diabetes, alkalosis, jaundice, and uremia, demonstrating the blood changes which take place and the precision with which exact methods of treatment can be applied.

"Silent" Diabetes

CASE 1.—The patient, a woman aged forty-four, had had malignant disease of both ovaries and tubes, for which abdominal hysterectomy was performed. She left the operating table in good condition, but six hours later developed coma, no clue to which had been given in the history or preliminary physical examination.

Examination of the blood showed a very low sugar content. An intravenous injection of 10-per-cent glucose solution with bicarbonate of soda and a moderate amount of insulin was given. The patient regained consciousness in a few moments. Intravenous injections were continued for three days, and convalescence was rapid. The patient left the hospital in due time, and has remained well.

COMMENT.—Wilder and Adams have recently reported a series of 141 cases in which major operations were performed for general surgical conditions, complicated by diabetes, with but four deaths. Many of the patients had severe diabetes, and all of them recovered.

Alkalosis

CASE 2.—The patient, a man aged thirty-four, had a large, anteroposterior bleeding duodenal ulcer with moderate obstruction. The ulcer was removed by direct excision, and a partial duodenectomy made. The end of the stomach was attached to the cut end of the duodenum after the general plan of the Billroth I pylorectomy.

At the end of four or five days the patient began to vomit. Large quantities of fluids were removed from the stomach by tube, and sustenance was maintained by proctoclysis and hypodermoclysis. In the course of three days symptoms of tetany appeared, and his condition became serious.

Examination of the blood showed the chlorids to be reduced to about half the normal of from 560 mg. to 650 mg. The alkalosis was even more clearly demonstrated by the carbon-dioxid-combining power rising from the normal of 56 to 65 per cent by volume to 140. The urea blood content had risen to 125 mg., and the creatinin to 10 mg. The patient was given a liter of 1-per-cent sodium-chlorid solution with 10-per-cent glucose intravenously three times in each twenty-four hours. He began to improve at once. The chlorids rose to normal, the dehydration was relieved, and the renal function became adequate, the blood urea dropping to normal. The patient left the hospital at the end of fourteen days in good condition, and has remained well.

COMMENT.—Balfour, Eusterman, McVicar, and Weir, with these methods of restoring by biochemical means the vital capacity of patients, have noted remarkable results from operating for surgical conditions of the stomach and duodenum. In a series of over 400 consecutive cases of cancer and ulcer of the stomach and duodenum, Balfour has been able to lower the operative mortality to less than 1 per cent. Of the four deaths which occurred in the series, one followed jejunostomy for an acute perforating gastric ulcer, with general septic peritonitis. In this series of over 400 cases, resection of the stomach was performed in 114 with but two deaths. A large percentage of the operations were performed for carcinoma, only four were indicated for duodenal ulcer, which is essentially a benign process seldom requiring so radical a procedure, and the remainder for gastric and gastrojejunal ulcer.

Jaundice

CASE 3.—The patient, a woman aged forty-eight, came for examination in poor general condition, with jaundice of ten weeks' duration. She gave a clear history of gall-stone colic over many years. For the last five years she had had comparatively little trouble from the gall stones. Otherwise she had been in good health.

About four months before coming to the Clinic her appetite had failed, and she had lost considerable weight. Jaundice had slowly developed and had been continuous. There had been times when she had a chilly sensation, but no record had been kept of her temperature.

Besides the jaundice, there was a tumefaction in the region of the gall bladder which was believed to be distention of the gall bladder, and possibly a complicating carcinoma. Except for the presence of bile in the urine, the renal function was fair. The stools were clay-colored. The skin showed some bluish discolorations as the result of slight injuries, and evidences of irritation from scratching to relieve the intolerable itching which accompanied the jaundice. The coagulation time of the blood was 22 minutes; the calcium time was 20 minutes.

Calcium chlorid was given intravenously, blood was transfused, large amounts of water were introduced to aid elimination, and diet with considerable carbohydrate was prescribed. In the course of a week the coagulation time of the blood was reduced to nine minutes, and the patient's condition greatly improved.

Exploration under local anesthesia, aided by a small amount of ethylene and oxygen, revealed stones in the

gall bladder, and a small obstructing malignant mass in the terminal end of the common duct. The stones were removed from the gall bladder, which contained only white bile. The gall bladder was anastomosed to the stomach and the abdominal incision closed.

The patient did badly following operation, was unable to take nourishment, became more dehydrated, and developed diarrhea, the stools showing evidence of bile. The output of urine was greatly reduced. She became somnolent, and gave every indication of speedy dissolution.

Examination of the blood showed acidosis. The carbon-dioxid-combining power dropped from the normal of 56 to 65 per cent by volume to about 20 per cent. The patient was given a liter of glucose and bicarbonate of soda solution intravenously three times a day, and began to improve immediately. She left the hospital in four weeks, and lived in comparative comfort for about nine months.

Necropsy showed malignant disease of the ducts with secondary involvement.

COMMENT.—Walters, by careful rehabilitation of jaundiced patients has been able to reduce the operative mortality to 3 per cent, and to bring to operation safely many patients of the type formerly considered beyond help.

UREMIA

CASE 4.—An anemic man, aged seventy-six, came for examination because of urinary frequency, dizziness, and slight edema of the ankles. In the lower abdomen was a mass which was recognized as the distended urinary bladder. The blood urea content was 300 mg., the creatinin 8. The urine contained considerable albumin and casts. The prostate was markedly hypertrophied.

The history and physical findings were typical of prostatic hypertrophy, with secondary involvement of the kidneys, and marked urinary retention. The patient was placed in bed, and the bladder slowly decompressed. Eventually, tolerance to the inlying catheter was established. A large amount of fluid was given by mouth, and from 1,000 to 2,000 c.c. of a 1-per-cent sodium-chlorid solution intravenously each day.

The patient was given two small transfusions of blood, and placed on an easily digested carbohydrate diet. In two weeks the urea and creatinin had dropped to normal, and his condition was favorable for operation. Suprapubic prostatectomy was performed. Recovery was prompt, and the patient left the hospital in good condition, which he has maintained.

COMMENT.—Braasch, Bumpus, Hunt, and Walters, by careful preparation for operation and proper aftercare, based on these conditions, of patients with prostatic hypertrophy, have been able since January 1, 1925, to perform prostatectomy in a series of 186 consecutive cases, with but one death.

TREATMENT OF CANCER.—Every hospital should adopt a plan whereby the facilities of the institution are put to the fullest possible use in the diagnosis and treatment of cancer and other tumors.

OPTIMUM TEMPERATURE.—From an observation of over 40,000 operations, an operating-room temperature from 68° F. to 72° F. is the best for the patient.—*Ochsner.*

SYMPOSIUM ON SURGERY OF THE BILIARY SYSTEM

INDICATIONS FOR CHOLECYSTOSTOMY AND CHOLECYSTENTEROSTOMY*

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Present-day surgery of diseases of the gall bladder, the liver ducts, and pancreas at best is fraught with uncertainties and dangers. It is safe to say that in no other field of work is the surgeon's judgment put to so severe a test if he is to perform the correct type of operation at the right time and in the proper way, in order to obtain results satisfactory to the patient and to himself. A frank discussion of the various sides of the subject would be of value, and it is to be hoped that this symposium will shed additional light upon the problem.

In discussing the operation of cholecystostomy and cholecystenterostomy, the writer wishes to protest vigorously against the present widespread and indiscriminate removal of the gall bladder. A few years ago it was held that cholecystectomy should be performed in all cases showing gall-bladder pathology, with little regard to the condition of the liver, the ducts, the pancreas or the patient himself. So generally had this dictum been accepted by the profession that any one who made so bold as to sound a warning or offer a protest was looked upon as a surgical heretic; but thanks to the work and writings of Mayo, Finney, Gibbon, Crile, Deaver, and others, this tide of radicalism has been at least partially stemmed.

Cholecystectomy is undoubtedly a better operation than cholecystostomy if it is indicated and is performed by one who realizes its technical dangers, but it should be chosen only after careful consideration of the type and extent of pathology present in the gall bladder and wall and of the condition of the cystic duct. Who has not been obliged to reoperate, usually upon his own cases, in the presence of jaundice, and wish to heaven the gall bladder had not been removed at the former operation?

No fixed rules, of course, can be made for all cases, for each one is a law unto itself; but we in our work have become more conservative as time goes on, and now decide upon cholecystectomy only after careful consideration of the patient's chances of future trouble. Should

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there be any evidence of hepatitis, a moderate degree of pancreatitis, enlargement of the common duct with or without stone, the gall bladder is usually saved if there is no evidence of cystic-duct obstruction. Should there be evidence of marked hepatitis and pancreatitis with common-duct obstruction, especially with the absence of stone in the duct, the gall bladder is not only saved, but the operation of cholecystenterostomy or cholecystogastrostomy is strongly considered. Cases with persistent jaundice, rebellious in clearing up during preoperative treatment, at operation showing distention of the gall bladder instead of contraction, those in whom great quantities of bile drainage may be expected after operation, oftentimes in amounts fatal to the patient, due to dehydration and loss of bile salts, are the ones that are best suited to have cholecystenterostomy or cholecystogastrostomy.

Upon the subject of acute empyema of the gall bladder, more surgeons are becoming conservative, believing that in most cases cholecystotomy is by far a safer operation than cholecystectomy, not only from the operative standpoint, but also because they believe the pathology in the gall bladder is only an evidence of a general biliary infection and that these patients need drainage. It is surprising how many patients thus treated remain well.

Cholecystogastrostomy or cholecystenterostomy is, of course, the operation of choice should carcinoma of the pancreas be found to be the cause of the obstructive jaundice. Cholecystogastrostomy is easier to perform than cholecystenterostomy and is a safer operation, for it is often difficult to mobilize the duodenum. Babcock, who has done many cholecystogastrostomies, believes that bile poured into the pyloric antrum causes no discomfort. Cholecystogastrostomy has been suggested in Hanot's cirrhosis. A most astonishing recovery took place in one of our cases in which the patient had been jaundiced for twenty-two months, with marked enlargement of the liver and spleen and with great emaciation. This man is back at work, having gained forty pounds in one year after a cholecystogastrostomy.

The operations of cholecystenterostomy or cholecystogastrostomy may be performed by using a small Murphy button, a rubber tube, or by suture anastomosis. The rubber-tube anastomosis can be quickly and safely performed, and as the tube remains in position sometimes for several weeks, it is reasonable to suppose that this method insures the patency of the anastomosis.

RECENT CHANGES IN THE CONCEPTION OF JAUNDICE*†

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Jaundice, as one might easily imagine, is one of the earliest disease conditions to have been recognized and studied. The hepatoscopy of the Assyrians and embalming of the Egyptians allowed jaundice to be associated with diseases of the liver even in pre-Hellenic times, while in the Empedoclean and Galenic doctrines of the four humors, the bilious temperament played a prominent part, though this of course carried a much more extensive interpretation than does the modern conception of jaundice. The dominance of Galen's teaching over physiological thought until comparatively recent times leads us directly to the period of pathological anatomy, where jaundice was easily associated with many gross obstructions to the bile passages. This in turn gave rise to the dangerous generalization that obstruction to the bile passages must occur in all forms of jaundice, even when not easily detected; so that the upholders of the hematogenous and the hepatohematogenous theory (i. e., that bile pigment could be formed outside of the liver) made but little headway in the 19th century. In fact, it is only in the past few years that we have been able to say, from the work of Whipple[1], Mann[2], Rich[3], and others, that a true hemolytic jaundice can and does occur without derangement of the liver, and even that the change of hemoglobin pigment into bilirubin occurs to a considerable extent outside of the liver.

This advance, as is so often the case in medical progress, has been largely due to and is closely associated with improvements in experimental and clinical technic, most of which will have to be omitted from this presentation. Suffice it to say that whereas at first jaundice was diagnosed by the discoloration of the skin and mucous membranes, better methods of urine and feces examination later permitted the earlier diagnosis of choluria and of blockage of the bile from the feces. And finally, the recent expansion of blood-analytical methods has still further accelerated diagnosis, not only by allowing the detection of increased amounts of bile pigment in the plasma, but also by permitting its quantitative estimation and the differentiation between two forms of bilirubin now thought to be associated with obstructive and nonobstructive jaundice.

This has been chiefly brought about by the use of Van den Bergh's[4] application of the old

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†From the Laboratories of the Philadelphia General Hospital.

diazo reaction, whereby the amount of bilirubin in the blood can be estimated and very small variations detected. In the direct or qualitative test, 1 c.c. of serum is added to 1 c.c. of the freshly made-up diazo reagent, and the reaction is considered immediate if a reddish-violet color develops to its maximum within thirty seconds. In the delayed direct reaction, the color takes longer than thirty seconds, sometimes up to an hour, to appear. In the mixed or biphasic reaction some color appears immediately, but it continues to increase in intensity for more than thirty seconds. No color at all indicates a negative reaction, and yet such sera may contain bilirubin which can be estimated quantitatively by the indirect reaction. In this (to which all of the former types react) 1 c.c. of serum is added to 2 c.c. of 96% alcohol and the supernatant fluid added to a modified diazo reagent. The resultant pink to violet color is matched against a known standard solution, from which the amount of bilirubin can be determined. (The formulæ and calculations are not given here as they are now available in many places.)

It is believed that the immediate reaction indicates an obstructive type of jaundice; whereas, in the hemolytic type, the direct reaction is either delayed or negative. A biphasic reaction indicates a mixture of the two types. The negative serum can be further investigated either by the indirect quantitative method or with the Meulengracht[5] icterus index. This detail, however, cannot be pursued further at this time. Suffice it to say that these tests should be part of the routine of every well-equipped laboratory.

Although the matter is not yet entirely settled in all its details, sufficient evidence has accumulated to make it reasonably certain that the hyperbilirubinemia produced by obstruction differs materially and recognizably from that produced in other ways. McNee[6] has suggested an ingenious explanation for this difference, based upon the finer histology of the liver lobules. He looks upon the liver Kupffer cells (part of the reticulo-endothelial system) as sharing in the formation of bilirubin, and the bile capillaries as radiating test tubes pouring into the bile ducts and lined with the liver cells which in some unknown way modify the pigment furnished them. If the bile pigment passes through both these barriers and is later resorbed into the blood on account of gross obstruction, say of the bile passages, the immediate type of reaction will be obtained; whereas if the liver cells are damaged so that the pigment cannot pass through, another type is found. Partial damage or too much pigment would, of course, produce a mixture of the two, with the possible addition of gross obstruction as well.

How do these new concepts change our views about jaundice, and what use can be made of them? In the first place, the more accurate and objective methods of attack have already reduced the so-called "functional" jaundice almost to the vanishing point. Also, deliverance from the purely obstructive theory, has allowed a freer vision of extrahepatic causes, so that one might think of the liver as Danaë, of Grecian mythology, visited by Jupiter in the form of a shower of bilirubin gold, although it must be admitted that the offspring, bile, is no Perseus; or, as Rous[7] has put it, if jaundice is fathered in the blood stream, it is borne by the liver. As a result of this change in outlook, the important conception of this phase of the function of the reticulo-endothelial system has crystallized, one of the functions of the spleen has become better understood, and the functional pathology of various diseases associated with excessive blood destruction is made clearer.

Such common conditions as acute catarrhal jaundice acquire new interest, and although their pathogenesis may not even yet be clear, at least a fancied obstruction by the swollen duodenum is no longer regarded with satisfaction as a cause, and ample new fields for investigation are offered. For the not-infrequent disease hemolytic jaundice, and the jaundice of such conditions as pneumonia and arsphenamine poisoning, more obvious explanations are forthcoming instead of the assumption of the resorbed bile of pleiochromic icterus; and lines of study are suggested whereby the natural history of the more obscure toxic and infectious jaundices, cholangitis, and the like may now be elucidated.

Summary: As a result of recent laboratory and clinical investigations and animal experimentation, the pathogenesis of jaundice has been traced another step nearer its origin, and the liver is no longer recognized as its sole source.

Promising fields of research are thus opened up whereby the natural history of the various hemolytic and infectious jaundices can be accurately investigated.

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THE SURGICAL MANAGEMENT OF THE JAUNDICED PATIENT*

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The first office of the surgeon is to be sure whether surgical intervention is needed *at once, later, or at all.* When a patient is brought to the hospital nearly moribund because of a ruptured gall bladder and consequent peritonitis, or with a septic cholangitis, the surgeon must decide whether to operate—and perhaps sign the death certificate—or to allow the medical attendant to assume responsibility for delay.

If jaundice is due to inoperable carcinoma of the liver or far-advanced cancer of the pancreas, the case is not for operation. Cases due to terminal toxemia and infection not of biliary or splenic origin should remain under medical management. Careful differential diagnosis, however, sometimes is difficult in catarrhal jaundice.

The question of operability must be studied painstakingly, as greater safety may often be secured by preoperative treatment.

Patients who have had obstructive jaundice for over a week often have a markedly increased tendency to bleeding at the time of operation and are especially prone to suffer from postoperative oozing. This is a prominent feature where jaundice has existed for three or more weeks and where purpuric spots over the body are present.

When the liver function has been crippled for days, and evidences of dehydration are markedly manifest, the concentrated toxic substances damage the kidneys and lessen their ability to eliminate these noxious materials from the blood stream.

The clinical history and physical examination, as well as the evidence offered by the clinical pathologist as to the status of the patient's blood chemistry, CO_2 tension, kidney efficiency, and coagulation time of the blood, therefore must be weighed carefully.

In cases of obstructive jaundice which are in the bad-risk class, the first step in the preoperative treatment is to overcome dehydration; the next is to supply carbohydrates by giving dextrose solution intravenously, p. r. n., and—if Thalheimer's views are to be accepted—insulin also to utilize the carbohydrates in burning up the ketone bodies.

Calcium chlorid, intravenously, for at least three days preceding operation, as advised by Walters of the Mayo Clinic, has apparently been of benefit in our work. The parathyroid extract of Collip will probably be used in the future because it lengthens the calcium curve. C. H. Mayo states that the best measure in cases of twelve minutes' or more coagulation time is a transfusion of acceptable human blood. The Unger method facilitates this. We transfuse before and after operation where the indications are present. These measures are also to be used previous to splenectomy in hemolytic jaundice.

The operative procedure indicated will depend upon the cause of the jaundice and the operability of the patient.

If the jaundice is due to disease of the spleen, splenectomy is indicated in an apparently enlarging group of cases.

If the obstruction of the common bile duct is due to disease or to a new growth of the pancreas, it is probably better, if conditions permit, to detour the bile by way of the gall bladder to the stomach or duodenum, doing a cholecystoduodenostomy or a cholecystogastrostomy. In three cases of chronic biliary stasis due to thickening of the head of the pancreas, where there was cholelithiasis and cholecystitis, I have removed the gall bladder down to the cystic duct. The cystic artery was ligated and anastomosis of the cystic duct to the duodenum made with very satisfactory results. If the gall bladder, having been removed previously, is not available, then in certain instances it may be possible to do a choledochoduodenostomy or choledochogastrostomy. Thus to short circuit the bile primarily would seem better than to allow the bile to escape externally, with the consequent dehydration and loss of bile salts. This also holds true where it is decided to try to prolong life in carcinoma of the ampulla.

In the severe acute septic jaundice due to obstruction by stone in the common duct, if the patient is an extremely bad risk and there is no obstruction of the cystic duct, the safe and sane procedure for the majority of surgeons is a temporary drainage of the gall bladder for a period of twelve or fourteen days. With the patient in improved condition, any other needed surgery can be done with less risk and as a second stage of the operation.

Where it is decided to do the necessary surgery in one stage it should be done thoroughly. After removal of the obstructing stone from the common duct, all the mucous membrane of the gall bladder and cystic duct down to the common duct should be removed, and drainage of the common duct instituted.

The method of anesthesia we prefer is paravertebral nerve block and local infiltration, the

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patient previously having been narcotized with morphin and hyoscin, and adding light nitrous oxid if required.

Is it possible to render bile bacteriostatic or bactericidal with drugs or chemicals given intravenously or by mouth previous to or following operation, thus lessening the danger of peritonitis, septic cholangeitis, pneumonia, empyema, and blood-stream infection?

If the experimental studies of Hill and Scott of Baltimore are to be accepted, the answer is affirmative—by giving mercurochrome-220 intravenously or by mouth. In our clinic we have not as yet given the drug by mouth, but have been able by its intravenous use abruptly to reduce the Charcot temperatures of infected biliary tracts, the patient continuing to run a normal temperature without recurrence. We have used it successfully eight or ten times to disinfect the biliary tract postoperatively during the periods of tube drainage, and have noted no ill effects beyond a mild anaphylactic reaction of short duration and slight salivation in several cases. We also have used it many times at operations on the gall bladder after aspiration of bile, and locally, over potentially contaminated intra-abdominal areas.

It is our practice to drain the subhepatic space in operations upon the biliary tract and always to drain the common duct after removal of a stone.

Postoperative care does not differ essentially from that of other abdominal cases except in the treatment of postoperative oozing and anemia—by transfusion. At present we are using Collip's parathyroid extract instead of calcium intravenously; also, in many cases, instillation by the Murphy drip of saline through the gall bladder or common duct after the method of McArthur. Gastric lavage, too, should not be forgotten.

The prognosis will depend upon the cause of the jaundice, the length of time it has existed, the septic complications, the judgment of the surgeon in handling the operative problem, the adequacy of the drainage, and the gentleness with which the tissues are handled, as well as the preoperative preparation and postoperative care.

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SYMPTOMATOLOGY OF CHOLECYSTITIS*

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The symptoms of acute cholecystitis are quite definite, and the diagnosis usually presents few, if any, difficulties. The onset is abrupt, with pain in the epigastrium and upper right quadrant of the abdomen. The pain is constant, with paroxysmal exacerbations which may be quite severe and resemble gall-stone colic. The latter is, however, more intense. Nausea and vomiting are usually associated with the pain. When generalized biliary-system infection is associated with cholecystitis, jaundice may be observed. The head of the right rectus is more resistant on pressure than the left, and even slight pressure is apt to produce very marked discomfort, sometimes considerable pain. Fever, usually not above 102° F., may occur. The pulse rate is unaffected as a rule, except as modified by the severity of the pain and the sensitiveness of the nervous system of the patient. If the inflammation progresses to the point of suppuration, the total leukocytes may be greatly increased, with a strong preponderance of the polynuclear neutrophiles. Chills, fever, and sweats are not uncommon in suppurating cholecystitis.

The symptomatology of chronic cholecystitis varies so greatly that at times it is only with great difficulty that a diagnosis can be made. In some of the textbooks, chronic cholecystitis is apparently considered to be synonymous with cholelithiasis; at any rate, the symptoms given are those of cholelithiasis without anything being said about chronic cholecystitis without stones. Possibly some gall stones are due to abnormality in metabolism and are unassociated with cholecystitis. In the majority of cases, however, the formation of the stones occurs in the course of a chronic cholecystitis.

An analysis of symptoms present in cases of chronic cholecystitis operated upon at St. Luke's Hospital during the past year was made. All of these cases were proved to be cholecystitis by histologic examination of the gall bladder. It was found that the symptom common to all was pain, the character of which varied from soreness to severe paroxysmal pain. As a rule the suffering was not continuous. Sharp, paroxys-

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mal pains occurred at times in the absence of gall stones. Those who had intense, agonizing, cramplike pains usually had cholelithiasis. The location of the pain was most often in the epigastrium and in the adjacent portion of the right hypochondrium just below the costal border. In the absence of pain, soreness could be elicited on deep pressure made over the region of the gall bladder. In many of the patients the pain occurred from one-half to three hours after meals. In one patient it occurred with regularity from two to three hours after meals and awakened him from sleep during the night, strongly suggesting the presence of a peptic ulcer; but at operation chronic cholecystitis was the only pathology found.

Vomiting occurred in about one third of the cases. When jaundice occurred it was of the obstructive variety due to a stone. A very common symptom was a feeling of gaseous distention in the region of the stomach, with a sense of weight in the epigastrium. Eruction of air was also a very common symptom.

Constipation was present in the majority of the patients in this series. This has very little significance, for in a series of cases representing almost any other disease, the incidence of constipation would be as great.

In about twenty-five per cent of the cases obesity was noted in the physical examination. This probably does not take into account those individuals frankly overweight but not obviously obese. It was interesting to note that the disease was encountered quite infrequently in those under weight. In many of the patients there was a delayed gastric motility with a subnormal acid curve.

None of the patients had fever. In the absence of complications, the leukocyte and differential count were normal. Bile obtained at the time of operation was sterile in a great majority of instances. When bacteria were encountered in the bile they were usually of the colon variety. Occasionally streptococci were found.

TECHNIC OF THE OPERATION OF CHOLECYSTECTOMY*

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Perfected technic in cholecystectomy means fewer postoperative complications, better end results, and a reduced operative mortality. The fundamental principles underlying the operation of cholecystectomy are the same whether the operation is started at the fundus or at the cystic duct. The latter method alone will be discussed.

These principles are the following: (1) Ample exposure of the operative field. (2) Isolation of cystic duct and artery. (3) Exploration of the extrahepatic ducts. (4) Covering raw liver surface and control of hemorrhage. (5) The question of drainage.

Ample exposure of the operative field is the first essential for good operative work. Many technical errors which occur, such as injury to the hepatic ducts and vessels, are due to short, improperly placed incisions and failure to deliver the liver and gall bladder into the abdominal opening. The high, straight, right-rectus incision, cutting or using the suspensory ligament of the liver as a tractor, is better than the oblique or transverse ones. The gall bladder is also used as a tractor to rotate and deliver the liver well up into the incision. Wet gauze packs with retraction hold the stomach to the left, and the duodenum and hepatic flexure down to the right.

Adhesions, if present, are released by sharp dissection. With this exposure, visual isolation of the cystic duct and artery from their neighbors in the gastrohepatic omentum is usually made safe and easy. Hemostatic traction on the pouch of the gall bladder improves exposure of the right border of the gastrohepatic omentum, between which layers are the cystic, hepatic, and part of the common duct, the cystic and hepatic arteries, the portal vein, the hepatic plexus of the sympathetic nerves, and several lymphatic glands. Because of the frequency of anatomical variations in the arrangement of the ducts and arteries, a clear dissection of both affords the only constant factor of safety. The duct should be cleaned of the loosely adherent subperitoneal tissues by gentle moist gauze dissection from the pelvis of the gall bladder to the common duct. Some surgeons regard it as important to injure as little as possible the sympathetic nerve fibers along this pathway, believing they have some function in the normal physiology of the upper digestive tract. Be this as it may, it is good practice. The surgeon is then satisfied he has the duct; anomalies, if present, are recognized; the duct can be cut between two clamps at the right point, so that there is no encroachment upon the common duct; neither is an excessive portion allowed to remain, thus inviting re-formation of stones.

If the cystic duct is completely or partly obliterated, the stump is ligated with plain catgut No. 2, touched with iodin, and dropped back

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without special anchoring or closure of the gastrohepatic omentum. When closure of the abdominal incision without drainage is contemplated, it will be safer to apply a double ligature of chromic gut No. 1. In some cases, if the lumen of the duct is dilated, a different procedure can be followed. The common duct can be explored by passing a small probe. The character of the bile, or any existing obstruction can be determined. A firm rubber tube, of small caliber, is slipped into the duct stump and held by a fine, chromic gut suture. This is not applicable as a routine procedure, but it seems to have merit in certain types of cases. Many gall-bladder infections are associated with hepatitis, in which surgical drainage of the bile from the infected area for a period of two or three weeks materially assists postoperative convalescence and improves the chance of a satisfactory end result.

Control of bleeding is sometimes a difficult part of the operation. Normally the cystic artery has its origin from the branch of the hepatic that supplies the right lobe of the liver, and passes above the cystic duct to the neck of the gall bladder. As in the case of the duct, many variations occur. Traction on the hemostat holding the duct end of the gall bladder will assist in locating the artery and permit clamping a safe distance from its origin. Infection often renders the tissues friable. Tearing off or cutting through of forceps is followed by free bleeding, making safe reclamping difficult. The manipulations necessary for clamping and tying should, therefore, be gentle and accurate.

After isolation and division of duct and artery, the gall bladder is dissected from the liver, leaving a peritoneal margin attached to the liver. Before completely releasing the fundus of the gall bladder, the lower sutures covering the raw liver surface should be placed. Opening of the gall bladder should be avoided if possible.

An abdominal exploration is made at the beginning of the operation, noting especially the liver, spleen, pancreas, duodenum, and appendix. The common duct is most satisfactorily explored after the gall bladder has been elevated and prepared for removal. Palpation may be negative even though stones are present. Hepatic-duct stones are not palpable. Exploration through an opening in the duct gives more accurate information. This should be done when the common duct is dilated, when the clinical history is suggestive, or palpation doubtful. The hypodermic syringe may be useful to identify the common duct.

When stones are found it is often difficult to be sure that all have been removed. The hepatic ducts should be explored first, then the common duct as far as the duodenum. It may be wise to repeat this exploration several times. A hepatic-duct stone, escaping detection at first, may work down and be found later.

The common duct should never be closed without a drain. If drainage is necessary for only two or three weeks, a straight rubber tube is used. If the case is one of recurrent common-duct stones, also in certain primary cases necessitating drainage over a longer period, a T tube is preferred.

The question of drainage in other than common-duct cases is not so easily disposed of. Surgeons agree that it is good practice to avoid abdominal drains when possible. They undoubtedly invite infection, adhesions, and hernia. Unfortunately, sometimes drainage is inevitable. A common example is the thick-walled acute or subacute gall bladder with stone impacted in the cystic duct, all tissues congested and friable, and wide oozing liver surface remaining after the gall bladder is removed. It may be necessary to suture a strip of gauze to the bleeding liver surface, and to insert rubber tissue or a tube. When cholecystectomy can be done so that there is no leakage of bile, the under surface of the liver being well covered by peritoneal flaps obtained from the margin of the gall bladder, and when careful inspection shows a dry wound, closure without drain should be made.

A CONSIDERATION OF THE END RESULTS OF BILIARY SURGERY AS SEEN BY THE GENERAL PRACTITIONER*

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The last two decades have shown remarkable progress in biliary surgery. It is probably a conservative estimate that at the present time, in the hands of the best surgeons 90% of the objects of biliary surgery are able to return to their regular occupations after convalescence from the operation, and at least 80% of them are entirely freed from the symptoms for which they were operated upon. Looked at from the other side, 10 to 20% of the cases of biliary surgery have a pathological condition in the liver at the time of operation, pathology from which there may be no recovery, or merely partial improvement, perhaps only temporary. They are not older than cases which recover; they have

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not necessarily been sick longer at the time of their operation: their disease is more virulent, possibly different etiologically, and, as a rule, has attacked them at an earlier age. The following facts materially influence these results:

1. A more careful preoperative study of the cases, greater accuracy in diagnosis, and the establishment of more definite indications for operation. The use of sodium tetraiodophenolphthalein, particularly since the development of the Peter Bent Brigham method of giving this chemical adjuvant by mouth, has greatly added to the accuracy of diagnosis.

2. One of the most potent causes for unsatisfactory results in biliary surgery is the unnecessary delay of a necessary operation. This is particularly deplorable since the means of more accurate diagnosis than heretofore are available, and more explicit indications for operation have been established, particularly the recognition of the fact that a large number of cases require an operation to complete the diagnosis. When it is recognized that a certain class of cases cannot be carried any further, diagnostically, than the statement that they present a surgical abdomen, and that this means an operation as soon as the most favorable conditions for it can be brought about, a great advance has been made and a large number of cases have been rescued from the danger of indefinite delay. Another cause for unfortunate, and often disastrous, delay in operation is the failure to realize that a stone in the common duct is not very likely to pass on into the bowel after it has caused symptoms in the duct, and that although the patient may seem to have adjusted himself to the presence of a partial obstruction, not more than four, or at the outside eight, weeks should be allowed to pass without surgical interference or satisfactory evidence that there is no longer obstruction in the common duct.

3. Preparation of the patient for operation: If the indication for operation is not urgent, the patient should be subjected to an exhaustive survey. The teeth and tonsils should be carefully examined. Pyorrhea should be remedied. Teeth showing evidence of apical abscesses should be extracted, and after the teeth and gums have been made as aseptic as possible, the tonsils should be considered and if chronically infected they should be removed. All this attention to the mouth is most important before any patient is given a general anesthetic. Chronic infection of cervix, rectum, anus, and prostate should be eradicated if present, and circumstances permit. The presence of a quiescent stone in a noninfected gall bladder is not an indication for an operation, while the conditions just mentioned are. Any conditions which do indicate an operation on the gall bladder should be carefully weighed against these other indications for operation to establish their importance from the point of view of precedence. A chronically infected gall bladder ranks with the preceding as a possible focus of infection. Furthermore, the patient's weight-height ratio, nutrition, nitrogen balance, and water balance should be looked to. If there is evidence of nephritis, the patient should be put on a purin-free and low protein diet, and the blood chemistry should be studied. Any nitrogen retention should be overcome so far as possible before operation. If the patient is greatly overweight, particularly if there is evidence of fatty heart or fat deposit in the mediastinum, as shown by His's angle, a reducing diet and régime may be carried out with benefit for weeks or even months. The possibility of carrying out one or all of the above measures should be borne in mind during delay caused by stone in the common duct.

4. Choice of operation; cholecystectomy vs. cholecystotomy: If the gall bladder is diseased it should be removed, providing the duct is empty and patent to the duodenum. It should always be borne in mind that in cases where the gall bladder is diseased, the common duct is very apt to have been invaded; consequently, if the gall bladder is unnecessarily removed, this may be greatly regretted, as it might be used successfully to connect the biliary passages with the stomach or duodenum. That this is a practical expedient is shown by the fact that Dr. W. Wayne Babcock has done 130 such anastomoses. If one can be reasonably sure that the gall bladder is not diseased, the careful emptying of the gall bladder with efficient drainage is the operation of choice. Stones rarely, if ever, re-form in the biliary tract. Nevertheless, a certain percentage of cases after operation will show stones that undoubtedly have been overlooked at the time of operation. These may cause a return of symptoms, and such a return of symptoms used to be erroneously attributed to the re-formation of stones.

5. Postoperative care means, first of all, a meticulous survey of the patient's condition and needs. Points often overlooked include the giving of an abundance of water and a diet as nutritious as is consistent with the patient's condition, but as low as possible in purins, lipoids and cholesterin. In choosing this diet, the condition of the kidneys should be carefully considered and any excess of protein avoided. It should be remembered also that biliary cases very frequently show a disturbance of gastric secretions—most often a subacidity or an ana-

cidity. These cases are apt to be benefited by the use of dilute hydrochloric acid. Biliary cases demand particular attention to the cardiovascular mechanism. A "cholecystitic heart" is an indication for long cardiac rest and careful building up. The treatment of unnecessary weight is here most imperative. Under no circumstances is it more often true that fat is a liability and not an asset. Postoperative cases desiring to reduce should not omit meals, but have small meals of low caloric value. Often four meals are better than three because the presence of food in the stomach and duodenum stimulates the flow of bile and empties the gall bladder. The digestive tract should be kept normally filled, when it will be normally active.

In considering the unsatisfactory results, it is well to bear in mind that in the majority of cases an unsatisfactory operation is a wrong operation, or an operation done at the wrong time (too long delayed), or done without adequate preparation of the patient. There may have been a wrong diagnosis, or too long waiting because of the fallacy that stones which cause symptoms in the common duct may be expected to pass spontaneously into the bowel, or because of an unwarranted diagnosis of malignancy and the failure to recognize the surgical abdomen which demands the prompt performance of an exploratory operation. Cancer of the gall bladder or of the liver is very rare in proportion to the number of times that such a diagnosis is made. The responsibility of the surgeon and of the physician to have the courage of their convictions, and to get these convictions across to the patient and the patient's family, is nowhere more imperative than in this particular line of cases.

Surgical methods should be more definitely standardized, particularly as to the value and uses of blood transfusion, dextrose, sodium chlorid, normal salt solution, and tap water.

ABSTRACT OF DISCUSSION

On Surgery of the Biliary System

John J. Gilbride, M.D. (Philadelphia, Pa.): Recently some of the most ardent advocates of cholecystectomy have seen the error of their ways and returned to conservative surgery in an increasing number of cases because the after condition has so frequently proved unsatisfactory, including adhesions in the upper abdomen, headache, and intense and persistent vomiting. There is no doubt that many cases will have a better convalescence and their ultimate condition will be vastly more improved following cholecystostomy than following cholecystectomy.

I have been using Graham's method for cholecystography, and have found it to be a distinctly helpful measure for outlining the gall bladder. The dose of sodium tetraiodophenolphthalein by mouth is 3.5 grams rubbed up in olive oil and divided into six capsules. The entire six capsules are given with the evening meal, the x-ray examination to be made the following day. In a recent case, the gall-bladder shadow showed through a greatly enlarged liver which was the seat of multiple abscesses. Gall stones do not appear to be affected. In one of my cases the x-ray report was negative, although a stone was present. In most cases, the diagnosis of gall-bladder disease will depend on other clinical methods.

Jefferson H. Wilson, M.D. (Beaver, Pa.): The necessity of exploring the upper right quadrant whenever the abdomen is opened for any purpose should be emphasized. This is illustrated by a case in which, after completing an appendectomy, the liver region was explored and the gall bladder was found to be full of stones. This patient had never had a symptom to attract her attention to the gall bladder.

Russell S. Boles, M.D. (Philadelphia, Pa.): Nonsurgical biliary drainage is a procedure of the utmost value, both in preoperative and postoperative management. There is a definite field for such drainage in the treatment of these patients, especially as a means of preventing recurrence of symptoms. Moynihan and others have shown that such recurrences and the reformation of stones are probably due to the retention of grit and stagnant bile in the intrahepatic ducts. It, therefore, seems very logical to believe that persistent drainage of this bile by nonsurgical means is indicated.

Alvarez and others have called attention to the fact that gall-bladder disease is frequently a disease of early adult life. Until the function of the gall bladder is more definitely determined, it would appear that conservative measures in the handling of these cases are desirable.

SYMPOSIUM ON AMETROPIA AND HETEROPHORIA

SOME OBSERVATIONS IN AMETROPIA AND HETEROPHORIA*

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It may be surprising that this trite subject has been considered worthy of the attention of this audience, comprised as it is of men whose knowledge of these matters is fully as great as the author's. The reason for its choosing is to call attention to the many peculiarities or irregularities, exceptions to the rule, that we may be helped in the understanding and treatment of the unusual cases which are constantly cropping up in a large practice. And again, although the major part of the oculist's income is derived from the correction of errors of refraction and their associated muscular conditions, the subject is rarely brought before our Society meetings.

"According to" and "against the rule," in the language of astigmatism, may also be applied to

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the relations of the musculature to errors of refraction. In hyperopia, esophoria is to be expected; in myopia, exophoria, because of the accepted etiology of accommodation—too much accommodation, too much convergence; too little accommodation, divergence; emmetropia, orthophoria. Hyperphoria is less satisfactorily explained. The Maddox rod or the cobalt glass ought, in order to be consistent with our theory, to show right or left hyperphoria in hypermetropia, and right or left hypophoria (purely passive) in myopia. It is to the exceptions and to their ametropic relations that your attention is called herein.

The examination of the refraction of the patients whose histories are here considered was made under cycloplegia in all young persons, except possibly high myopics. The total error was ascertained as nearly as possible in all cases, and the balance and imbalance of the muscles determined at the first examination and at the final testing when there was no accommodative strain, thus eliminating, for the time at least, the effect on the muscles of errors of refraction.

The muscle tests used are in the order of their efficiency: (1) Maddox rod, (2) cobalt glass, (3) red glass. The diplopia test, prism base down, is, in the opinion of the writer, less dependable because the two images are identical, and a tendency may prevail to hold them to a vertical line. Since the muscular conditions under discussion are tendencies and not actual turnings, other tests were considered unnecessary and time-consuming.

1. *According to the rule:*

(A) A large majority of patients with hypermetropia of 2° or less, have esophoria of 1° to 2° or even higher, depending on the demands upon their eyes in their daily life.

(B) Myopia of moderate or high grades is usually attended with exophoria, varying from low degrees up to actual turning, and a marked difference in degrees may exist in the exophoria for far and for near, the latter much greater in amount. Explanation is to be sought in the effect of accommodation in convergence. Esophoria is too great power of convergence in uncorrected hypermetropia; exophoria is too little power of convergence, because in exophoria the converging muscles are called upon to function without the stimulation and association of accommodation.

The cases which form the basis of these remarks were free from ocular disease and, so far as known, from general disease. The principal, if not the only complaints, were asthenopia, imperfect vision, or both.

2. *Against the rule:*

(A) Exophoria in hypermetropia. One instance will suffice for illustration and comment, although many might be cited, for they are not rare. A woman of 42 had hypermetropia of diopter 1°; and exophoria, far 2°, near 14°; full acuity of vision in each eye. The degree of exophoria, 2° only for far, is commonly found, is not significant, and may not be an indication of permanent imbalance for distance. For example: if full correction of hyperopia has been worn for near, the accommodation has had no more strain than in the case of emmetropia, and the lateral phoria may have disappeared at subsequent examination or have changed into a low grade of esophoria. It should be remembered, in making the tests, that the lateral and vertical phorias may be induced by the position of the lens in front of the eye, but no reasonable doubt can exist as to the high exophoria. In this case, and in the class of cases of which this one is an example, each test confirms the diagnosis. The imbalance cannot be attributed to the error of refraction. It is absolutely **independent of it.** Neither can it be traced to disease of the eye or a difference in the visual acuity of the two eyes, for disease is absent and the acuity of each is perfect. Nor can we accept the hypothesis that it is due to a defect in the structure of the internal or external recti.

The individual muscles are anatomically perfect and of normal contracting power. The defect is one of deficient innervation. Convergence is not sufficiently strong. For some reason, stimulation of convergence is inadequate. Divergence is proportionately too strong. It may be of normal power or even less than normal, and yet it is too strong for the convergence. The divergence is passive. These cases are found among those who have used the eyes too much at the near point, among those who are convalescent from illness, and in cases of nervous exhaustion. In a word, a marked tendency to divergence at the near point is due to loss of convergence from some general systemic cause.

(B) Esophoria in myopia. Two examples may be cited: a woman, aged 40; R-5, L-4; esophoria 3° far; and a boy, aged 17; R-550—8 ax. 18, L-950—7 ax. 180; esophoria 5°.

Here, again, it must be admitted that our conception of the relation of the refraction to the musculature is not sufficiently comprehensive to offer a satisfactory explanation of this class of cases. The cases are not commonly enough met with to induce an interest in their etiology. One is not warranted in asserting that the esophoria is a separate entity and independent of the re-

fraction. Such cases emphasize our limitations. We diagnose them, correct them, to the best of our ability, and there we stop. One naturally thinks first of loss of power of the diverging muscles or of the divergence itself from faulty development or anatomic anomalies of the orbits, and then of inherited predisposition to ocular eccentricities. Such breaches of the rule should be looked upon as exceptions, and not as vitiating in the least the established etiologic relation of hyperopia to excessive accommodation. They emphasize the necessity of treating each case individually and on its own merits. Exceptionally, in young persons, the esophoria is dependent upon spasm of accommodation, and this fact places such cases in the class of esophoria from excess of accommodation. Under cycloplegia, esophoria is greatly lessened or entirely disappears. A young lady of 19 had R-3, L-3, esophoria 5°. The latter was reduced to 1° by the use of homatropin.

(C) Hyperopia. So many varieties of upward and downward tendencies are met with in the examination of patients who have errors of refraction, and indeed in emmetropes, that we are at a loss to understand their etiology or connection with the refraction. Phorias are undeveloped tropias, and may be considered as identical but not of sufficient grade to cause actual turning, and therefore we appeal as often as is consistent with the findings to the effect of excess accommodation, or of deficient accommodation, the former in hypermetropia, and the latter in myopia, in attempted explanation of the latent defects. But hypermetropia and myopia seldom exist only as spherical defects. As a rule, astigmatism is present, or it may be that astigmatism exists alone. If careful search is made in internal strabismus, particularly by the device of using colored plain glasses before the squinting eye, it will be found that the image of this eye is homonymous and below that of the fixing eye, because the combined action of the converging muscles of that eye is to turn the eye upward as well as inward. In myopia the reverse should prevail, but here one is apt to be disappointed.

"May this explanation be applied to the phorias?" is a question difficult to answer. Inequalities of the orbits, anatomical difference of the tendonous insertions, hence, in the greater or less rotation of the globe, hypertrophy or atrophy of the muscular fiber, and heredity, all have been suggested as causes of muscular anomalies, but they are little more than guesses. No adequate explanation may be offered that does not take into consideration the entire musculature and innervation of all the muscles of both eyes, the contractors and the antagonists, for no voluntarily normal rotation of the eyes may take place unless all the muscles concerned in the turning of the eyes contract and all the other muscles relax simultaneously. Here the problem is exceedingly complex, and the complexity is inconceivably augmented by the systemic condition.

No attempt has been made, so far as I am aware, to explain the presence of the upward and downward tendencies by the relation of accommodation to supraduction and infraduction, and yet it would seem that some such relation exists. In actual internal squint, hypertropia is coexistent. That the squinting eye is actually turned up may be frequently demonstrated, especially in the concomitant form. Since phorias are latent tropias, differing ocularly only in degree, identical etiology and findings should be expected. Again, as in squint, another factor must be considered: namely, the nerve response to the stimulation from the brain centers. In tropias, double vision may be elicited when there is vision in each eye. In phorias, double vision is always absent, except occasionally and temporarily when the phorias become tropias. When induced artificially by, for example, a cobalt glass, it may be either right or left, irrespective of the degree of hypermetropia or of the vision. Theoretically, the hyperphorias might be explained, at least in part, by the same reasoning as that applied to the tropias, but practically it does not apply. Possibly, asymmetry of the body as illustrated in the tilted nose, the longer arm on one side, or the difference in size of the legs, may be reflected in the ocular structures, and thus one set of muscles may be stronger or weaker than the corresponding set of muscles in the second orbit. Asymmetry in the nerve centers, which might mean variation in the stimulation to the muscles, may be suggested; but such a supposition is not based on anatomic findings, and is mere surmise. Organic changes in the muscles or nerves is not to be considered, since this paper deals only with tendencies to turn, and not with accomplished turnings.

In the analysis of several hundred cases, muscular anomalies of many kinds, unexplainable by the relation of the function of the ciliary muscles to the state of refraction, have been found. Among them are cases of high hyperopia as well as low hyperopia associated with orthophoria; myopia with orthophoria; hyperopia with exophoria; myopia with esophoria; emmetropia with hyperphoria; emmetropia with esophoria.

(D) Astigmatism. Hyperopia and myopia are rarely purely spherical defects, especially in the higher grades. The influence on the mus-

cular functions of the astigmatism when it is less in degree than the spherical defect has not been determined. It may be assumed that it merely increases the effect of the hypermetropia or of the myopia, especially when the axes are according to the rule. When the axes are oblique, against the rule, or unsymmetrical, exceptions may be noted, but in my experience, not with sufficient frequency to permit useful suggestions.

For example: A man of 37 with R—1.75= —2.50° ax. 135°; L —1.50 = —1.75° ax. 45° had orthophoria instead of the expected exophoria for far and a higher degree of exophoria for near. A woman of 52 had R —5 = —1.25° ax. 90°; L —5=—.75° ax. 45°; esophoria 2½°.

In simple astigmatism the muscular anomaly, when present, does not always conform to rule. Thus, a man of 32 had R —1.50° ax. 90°; L —.50° ax. 90°; orthophoria. A man of 24 had R —2° ax. 170°; L —2° ax. 180°; orthophoria. A man of 48 had R +75 ax. 180°; L +75 ax. 180°; L hyper 1½°. Man, 25, R +3.50° ax. 70°; L +3.50° ax. 115°; L hyper 5° Woman, 36 R +1° ax. 75°; L +75° ax. 100°; exophoria 3°. Man, 35, R +1.75° ax. 100°; L +1.75° ax. 80°; exophoria 10°.

In mixed astigmatism, the phoria is apt to be in accord with the higher spherical defect; for example, low myopia and high hypermetropia, esophoria; low hypermetropia and high myopia, exophoria.

CONCLUSIONS

1. The lateral phorias, with many exceptions, are in accord with the accepted relation of accommodation to convergence.

2. No uniformity exists in the relation of accommodation to the refraction.

3. The presence respectively of right or left hyperphoria or hypophoria, is not indicated by the refraction.

4. The vertical tendency is the result of the contraction of the superior rectus, the inferior oblique, and the internal rectus, or of the relaxation of these muscles, and not of the overaction or underaction of any one muscle.

5. Heterophoria is, as a rule, a combination of lateral and vertical tendencies.

The percentage of all headaches due to ocular disturbances is difficult to determine. Estimates vary from 50 to 90 per cent, but probably 70 would be a fair one. Many patients show, by ordinary tests, nothing wrong, and yet there is definite eye disability.—*California and Western Medicine*, September, 1925.

CORRECTIONS IN AMETROPIA AND HETEROPHORIA*

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That there is no agreement among oculists as to the amount of the total error, as measured under a cycloplegic, which should be corrected, is apparent on looking over the directions given by different authors. Thus, Hartridge, speaking of hypermetropia, says "a good practical rule is to prescribe such glasses for reading as correct the manifest and one fourth of the latent hypermetropia"; and that "no correction should be worn for distance, so long as 6/6 vision is present without discomfort." Landolt, speaking of hypermetropia, states that while it is impossible to give rules which will cover every case, he lays down a general principle for the use of convex glasses as follows: The convex glass ought to correct the whole of the manifest refractive defect, and moreover disengage a certain quota of accommodation. This reserve quota of accommodation should be 1/3 of the total. Thus, in the example given, the total hypermetropia is 5 D, and the manifest 2 D, with the total accommodation 3 D. He corrects the manifest 2 D plus 1/3 of the accommodation, in this case I D, making the strength of the glass to be prescribed 3 D, thus leaving 2 D of the hypermetropia to be corrected not by a lens but by the patient's accommodation. This, we believe, is not the practice among oculists of this country.

Much of the diversity of practice in this respect would disappear if it were generally remembered that the usual measurement of the refraction at 6 meters is not the true correction, but a slight overcorrection. Six meters is not infinity, and an eye corrected for that distance is not made truly emmetropic but slightly myopic. This overcorrection, though slight, is sufficient to annoy the wearer when looking at more distant objects, and may induce him to discard his glasses. He frequently prefers the discomfort incident to eyestrain from hypermetropia to the blurring of his distant vision, if he has sufficient accommodation to correct his error. The nonrecognition of this fact is responsible for much of the so-called spasm of accommodation we read about.

Thus, suppose the true refraction of an hypermetropic eye to be 2.90 D; that is, a convex lens of that strength brings parallel rays to an exact focus upon the retina and so renders the eye truly emmetropic. There is no lens of that exact strength in the test case, and if there were,

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this lens would not be an exact correction at 20 feet, for, as stated above, this distance is not truly infinity. Exact correction at that distance renders the eye slightly myopic, which becomes greater where the examiner works at a shorter distance, say 15 feet, as is not rarely the case. The punctum remotum is at the distance of the test card from the patient. The subject under examination would therefore select a +3.D or perhaps even +3.25 as the lens giving the most accurate vision upon the test card. If this lens were worn for constant use, a young person would be annoyed by a slight blurring of his vision when more distant objects were viewed, a blurring which is absent when his hypermetropia is corrected by his own accommodation. This overcorrection is, of course, slight but sufficient to be disturbing.

Such overcorrection is not much noticed when the refraction is myopic, for the reason that the vision of a nearsighted eye is greatly improved by a concave lens, even if the latter does not correct the error fully.

This matter may be forcibly illustrated as follows: Suppose the test card, instead of being placed at 20 feet, is held at 10 inches, the letters in the latter case being correspondingly smaller, so that the images upon the retina subtend the same angle at the nodal point of the eye as the 20-feet letters do at their distance. An emmetropic eye under a cycloplegic would, of course, be unable to distinguish the 10-inch letters. It would require a +4 D for the shorter range. This lens could not be worn; allowance would have to be made for the range at which the measurement was made, and this allowance would have to be taken into account whatever the state of the refraction. A hypermetrope of 2 D would require a +6, and a myope of 2 D a —2. Thus, in every case, a —4 D must be added to the correction found under these circumstances to render the eye emmetropic, just as the proper allowance must be made when the test card is placed at 20 or 15 feet, the amount to be allowed depending in every case upon the distance at which the subjective test is made.

The influence of the range upon the glass to be prescribed was pointed out many years ago by Dr. Edward Jackson.

In myopia, the views are probably even more discordant between those who would correct the entire myopia, high or low, and those who advocate a partial correction if the myopia be at all high. The advocates of full correction whereever possible (that is, where there is sufficient accommodation present for ordinary near work) urge that rendering the eye emmetropic is the best method of preventing increase of the error. The opponents of this plan believe that it is better to spare the accommodation as much as possible. It is to be remembered, in this connection, that partial correction of myopia at all high will not always do away with the accommodation. Thus, suppose in a myopia of 16 D, a concave lens of 12 D is given. For the eye, under these circumstances, to do near work without accommodating, the near object must be held at 10 inches. The individual, however, is quite likely to bring the page closer, say 9 or even 8 inches, when, especially if the vision is impaired as is so commonly the case in high myopia, he must actually bring into play 1 or 2 D of his own accommodation. The objection sometimes made that strong concave lenses diminish the size of the object will hardly hold. It can be shown mathematically that when a correcting lens which accurately compensates the error of refraction is placed at the anterior focal point where glasses are usually worn, the size of the retinal image is exactly the same as the image there furnished by an emmetropic system. The apparent diminution of the object must, therefore, be purely subjective, and it is, of course, impossible for a subjective inference like this to be in any way injurious to the ocular structures.

Every oculist has observed cases which have advanced from low degrees of myopia to the highest, whether the correction has been partial or complete; but such observations are not conclusive. As in every other department of practical medicine, no single method of treatment is uniformly effective. It is a question of average results, and this can be determined only by analysis of a very large number of cases taken from all elements of the population.

In this connection, it would be of great interest to determine whether the distinction commonly made between so-called scholastic myopia and progressive or malignant myopia is real—whether the great majority of cases beginning in childhood are from the first destined to reach only moderate degrees without serious damage to the structure of the globe, while the small minority will continue to increase and be accompanied by fundus lesions, not only impairing the vision but threatening the gravest consequences. If such a distinction really exists, it would be entirely misleading to apply the conclusions from the one class to the other. If the tendency in one case is to remain innocuous and that of another to advance constantly, we are actually dealing with two entirely different conditions.

The attempt has been made to differentiate the two at an early period of the development of this

anomaly of refraction. Thus, Weiss's "bogen reflex" was regarded by that author and others as indicating a tendency to the progressive form. Some writers at the present day are inclined to deny the validity of this distinction, holding that every case of beginning myopia in childhood is potentially pernicious. A few, on the other hand, go so far as to say that the malignant form will progress in spite of almost all efforts to arrest it, and hold that medical treatment and hygiene are of greater value than optical correction. Some say that we are too pessimistic in regard to beginning myopia in childhood, seeing that the greater majority of such cases will never advance to a dangerous degree.

The early modern investigators of the refraction of the eyes of school children and students in the higher schools, beginning with Cohn, who have found myopia to increase regularly as the pupils advance in the higher grades, have drawn the, as they think, justifiable inference that the malignant form of myopia may be developed by the great demands upon the vision which the scholastic career involves. It is a matter of common knowledge that the highest degrees of myopia are found as frequently or perhaps even more so in those who make but little demands upon their sight, such as the peasants of certain European countries. This has been well brought out by Tscherning's studies of a large number of soldiers. Fukala, the strong advocate of the removal of the lens in high myopia some thirty years ago, and who was so largely followed for a time, based his argument for the practice mainly upon the uselessness of the accommodation in that state of the refraction—valueless when uncorrected, and impossible when fully compensated by a strong concave lens. Every practicing oculist sees many cases in which strong lenses are worn with comfort where the subject is young enough to possess accommodation. The well-fitting glasses supplied in this country may be a reason for the superior comfort. Probably the most serious objection to strong concave lenses is their prismatic effect when not properly centered. This can be overcome by the coöperation of intelligent opticians who understand the requirements of these cases.

Another objection which has been urged is that during the act of accommodation the intraocular tension is raised. This would be a serious objection if it were true, but we believe that this has never been actually established. Donders, Jaeger, and Stellwag did not regard it as probable. In spite of inadeqate foundation, a belief in the supposed unfavorable effect of the accommodation is extremely widespread. Hess asserts that this hypothesis is entirely futile, since he, in connection with Heine, has experimentally shown that even maximum contraction of the ciliary muscle is without the slightest influence upon the intra-ocular tension. It has also been urged that the contraction of the ciliary muscle, from its dragging upon the choroid, may lead to the formation of the conus. It has been shown, we believe, that displacement of the choroid by the action of the ciliary muscle does not extend beyond the region of the equator, and is entirely ineffective in the posterior portions. So it seems reasonable to conclude that whatever ill effects near work may have in furthering increase of myopia, this is not dependent upon the accommodation, and hence cannot be used as an argument against full correction. Whatever ill effects the external muscles may exert applies, of course, to partial correction as well; in fact, even in a greater degree, for the partially corrected myope is inclined or even forced to bring near objects closer to the eye than those with full correction. We believe, therefore, that theoretically full correction cannot be charged with furthering increase of myopia.

All oculists are probably agreed that total astigmatism found by measurements should be corrected by the cylinder, though even here in some cases a reduction may be necessary. The writer met with such a case only the other day. The patient was 47 years of age and had never worn correcting glasses. The right eye measured out hypermetropia of 1 D, the left required —0.50 D spherical with +2.50 cylindrical. This combination could not be worn, for the reason that it caused disturbing distortion, particularly of near objects. The reason is perhaps that the eyes having been accustomed to the great differences in the size and position of the two images, proper fusion did not take place under the changed conditions caused by the rather strong cylinder at the patient's age. On the other hand, the writer has met with and published a case where convex cylinders of 20 D have been worn constantly for 25 years with entire comfort.

As regards muscular imbalance, no oculist will correct every form of deviation just because some imbalance can be demonstrated by the tests. Hyperphoria and exophoria are, as a rule, of greater importance—especially hyperphoria, as the power of the vertical muscles is less able to correct such an error without symptoms.

The surgery of the pituitary body, as practiced today, has limitations, proportionate in large measure to the duration of the lesion. When surgery is recognized as an essential factor in the treatment of the pituitary lesion in the early stage, before optic atrophy is advanced and before the terminal stages of functional disorders are reached, there will be a decided improvement in the operative results and a lower mortality. —FRAZIER.

HETEROPHORIA AND ITS TREATMENT*

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The value of a careful and accurate measurement of the muscle balance, as a routine measure in all cases of refraction, cannot be overestimated. With a recognition of the close relationship between *errors of refraction and heterophoria,* the procedure assumes importance, particularly as it has a direct bearing on the character of the glasses to be finally ordered. As has been stated, "the importance of the relationship is so great that some authorities maintain today that all muscular 'imbalance' proceeds from errors of refraction, and that the persistent wearing of correcting lenses will ultimately dissipate the heterophoria." The writer is not prepared to agree entirely with this theory, but he is convinced from study of the history of many cases, that the correction of errors of refraction has frequently reduced the amount of heterophoria, if it has not caused it to disappear entirely, in a limited number of cases.

We are inclined to feel that the art of refraction, has been mastered and justly so—even though faith in its mastery may be shaken occasionally by a patient who condemns any and all glasses ordered—and therefore a review of that important subject would appear unnecessary in this paper.

The subject of heterophoria is a much more difficult problem. Before proceeding, therefore, to a discussion of the clinical relationship between this defect and refractive errors, a brief study of heterophoria may prove helpful.

VonGraefe first called the attention of the ophthalmic world to the importance of insufficiency of the recti, but it was left to Stevens later to publish the results of his exhaustive studies on the subject, and great credit should be given him in this pioneer work, especially as it was carried out in the face of severe criticism. In conjunction with this research work, he devised several instruments of precision that placed the detection and measurement of the muscular anomalies on a more or less exact basis: the monocular phorometer for testing the tonicity and duction of the extrinsic muscles of the eyeball and determining the presence of orthophoria, the cliniscope or cyclo-prorometer for testing the tonicity and balance of the obliques, and the tropometer for measuring the rotations of the eyeballs in the four cardinal directions. These instruments are admirable and are of great value in certain cases, but in the average case of heterophoria, the loose prisms, the Maddox rod, and the red and cobalt glass are usually sufficient for all practical purposes.

In heterophoria there is a tendency of the visual lines to depart from a state of parallelism, and the requisite coördination is effected by the fusion power. The delicacy of sense of the ocular muscles must be appraised very highly when one considers the minuteness between the retinal spaces and how they are measured by muscular sensations, especially in view of the constant change of position of the two eyes. Furthermore, the unity of adjustment and energy is constantly exercised during wakefulness, and it requires little imagination to realize that a slight lack of uniformity might result in marked symptoms. As Stevens has stated, "the associated movements of the two eyes achieved by the action of the various eye muscles imply a unity of balance and a quick response to nervous impulses not found in other parts of the organism."

The favorable arrangement of the muscles in one individual, as exhibited in orthophoria, does not require on his part so great an energy for concerted action of the muscles as in the individual whose arrangement of muscles is less favorable. Nor should it be inferred, because the latter individual requires greater muscular energy to secure the proper adjustment of his muscles, that they are intrinsically weak. On the contrary, they may be found unusually strong. This has been proved by the tropometer in many cases.

Again, the general health and environment of the individual may play an important part in the various nervous reflex phenomena noted in muscular errors. One individual, by reason of a sound physical condition, may overcome a high degree of heterophoria, whereas in another with poor physical development a comparatively slight muscular anomaly may bring about severe nervous reaction. This, of course, holds equally true in the consideration of errors of refraction.

It is difficult, in measuring the amount of the heterophoria, to secure complete elimination of voluntary or involuntary effort on the part of the patient. Only approximate estimates can be made, but for practical purposes they are generally sufficient. This is mainly accomplished by producing diplopia through the use of prisms. It must not be assumed that by inducing diplopia that eye muscles will become completely passive. To some extent there will be an attempt to secure fusion through muscular energy. It is essential, therefore, that accommodation and convergence be reduced to a minimum, and this

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can best be obtained with the patient seated at 20 feet.

Reference has been made to the monocular phorometer in testing the tonicity and duction of the extrinsic muscles, and the importance of these instruments in certain cases is unquestioned, but there are simple instruments and methods of detecting and measuring the muscular anomalies which are quite trustworthy.

First, the so-called Maddox-rod test. We are all so familiar with this test that no explanation is necessary here. The Maddox rod and tangent scale for testing the minute balance at infinity, and the Maddox wing for measuring the error at the reading distance, usually meet all requirements.

Second, the cover test. If the error is sufficiently high, it will manifest itself on covering the eye while the patient is looking with both eyes at a test object 20 feet away. The covered eye will promptly assume its natural position, which may be in, out, up, or down. On removal of the cover, the eye will return to a position in harmony with its fellow.

Third, the red glass. By reason of the contrast in color perceived by the two eyes, diplopia will result, and according to the position of the red to the white light, a candle being the test object, the character of the heterophoria may be obtained. As in the cover test, the error must be one of fairly high magnitude to secure satisfactory results.

Fourth, the cobalt-glass test. The patient will observe a small blue-red light with the eye covered with the glass, and its position with this candle flame will determine the character of the heterophoria.

SYMPTOMS

In the consideration of the symptoms of heterophoria, it is frequently impossible to conclude that they are not due wholly or in part to errors of refraction, but it is known that the ciliary muscle is only one of the eight muscles of the eye, and that the remaining seven may be called upon to do extra hard duty which results in the development of symptoms. It is extremely difficult to differentiate the symptoms of heterophoria and errors of refraction, because, according to the writer's experience, certain fairly well-defined symptoms are found to be common to both conditions. Headache is a frequent symptom of both heterophoria and refractive error, and yet it may be said that headaches unassociated with near work are generally due to a muscular error and not to refractive troubles.

Illustration: Mr. K. J., aged 53 years, suffered from dull frontal headaches independent of close work. A refractive error was present, together with low hyperopic astigmatism in both eyes. Muscle balance: right hyperphoria of 5 degrees; exophoria of 3 degrees. Glasses were ordered with 4 degrees of the hyperphoria neutralized with prisms. The headache was relieved.

Mrs. R. W., aged 49 years, complained of vertical headache associated with nausea and vomiting. Muscle balance: esophoria 17 degrees; vertical orthophoria. She had a comparatively low hypermetropia and hypermetropic astigmatism, and the glasses she was wearing corrected the refractive error. Prisms 2 degrees, base out, in each eye were ordered, with relief of symptoms.

The headache that is induced on extemely brilliant days, or when one is on the water or at the beach, is probably caused by the overactivity of the sphincter of the iris, in preventing the entrance of excessive light to the retina. The so-called nervous headache, unassociated with nausea and vomiting, is usually brought on by eye strain, but pure migraine may be due both to refractive errors and to heterophoria. How many times has the headache which has persisted for many years finally disappeared with the arrival of the presbyopic age, clearly proving its origin to be of a refractive character?

Illustration: Mrs. N. S., aged 45 years, had suffered for years with violent so-called sick headaches. Muscle balance: orthophoria. Under homatropin a comparatively high hypermetropia and hypermetropic astigmatism were noted. Correcting glasses failed to give complete relief. With the arrival of the presbyopic age, the headache became markedly less violent and frequent. Now, at the age of 50 years, she is comparatively free of all headache. This type of case could be illustrated, of course, many times. Headache due to heterophoria does not improve with age. This type persists after the development of presbyopia, unless relieved by surgical or other means.

Vertigo and nausea may be caused by focal errors, but they are more often due to insufficiency of the obliques. Worry, shock, and ill health all tend to aggravate this symptom. Hysteria, neurasthenia, catalepsy, epilepsy, and chorea may exhibit evidence of either heterophoria or errors of refraction. We cannot find that either are alone associated with the above diseases.

An interesting case is mentioned by Dr. Savage as occurring in the practice of a Denver physician, in which a bad case of stammering was completely cured by the correction of a

heterophoria. Later, removing the glasses temporarily, the stammering returned immediately.

The treatment of heterophoria demands earnest and thoughtful care. The kind and quantity of the error enters very largely into the character of the treatment. Before discussing in detail the treatment of the three principal forms of imbalance—esophoria, exophoria, and hyperphoria—reference should be made briefly to a few points of general importance.

First, the physical condition of the patient: We are wont to view any muscular error as entirely due to conditions inherent in the muscles themselves. This is erroneous, for as pointed out by Duane, "there must be no attempt to treat an insufficiency simply as an insufficiency, but account must be taken of the complex causes which lie at the root of it." Any constitutional defect demands appropriate treatment, as it frequently plays an important rôle in the muscular error.

Second, correction of the refractive error under a cycloplegic: With muscular anomalies of low degree, the correcting lens often takes care of the phoria automatically. In hyperopia, every diopter of error will overcome about 2 degrees of the esophoria, both in the far and near; in hyperopic astigmatism, every diopter of correction will overcome about 1 degree. Consequently, full correction in hyperopia is theoretically advantageous when associated with esophoria. In myopia, every diopter of correction adds to the manifest esophoria about 2 degrees in the near, but not in the far, while myopic astigmatism adds about 1 degree. In myopia, the correcting lenses cause no change in the muscle balance for distance; but in the near, the whole of the esophoria is manifested. Therefore undercorrection is the rule.

A few words may be desirable regarding the treatment of esophoria, exophoria, and hyperphoria respectively, from the nonsurgical standpoint.

In esophoria of low degree, due to convergence, excess and associated with hypermetropia, the correction of the refractive error will usually allay all symptoms. If, however, the esophoria is of higher magnitude and the error one of divergence insufficiency, then, in the writer's experience, partial prism correction, bases out in equal strength, has proved very helpful. Criticism of correction of the phorias with prisms is frequently expressed, as it is felt that they tend to augment the amount of the error, and many oculists rarely resort to this expedient. It is true that the muscular error may increase slightly in the course of years, but the relief is so pronounced in many cases that the procedure seems to justify itself.

Illustration: Mrs. S. M., aged 60 years, consulted Dr. Hansell April twenty-fourth, nineteen hundred fourteen. Glasses previously ordered showed a prism correction of the hyperphoria of 6½°. Refraction revealed a low astigmatic error. Muscle balance with cobalt glass showed 5 degrees of right hyperphoria. This hyperphoria, on subsequent examinations, showed gradual reduction, until in 1924, ten years later, there was vertical orthophoria.

In conversation some years ago with a prominent oculist in Philadelphia, he informed the writer that it was not unusual for him to order prisms for the lateral phorias many times daily.

It must be borne in mind, in this connection, that the patient will not accept over four or five degrees of correction, irrespective of the amount of the phoria. Then, too, there is, in a sense, a personal equation in correcting the phorias with prisms. Some patients will accept them, and others with a similar error will not. In other words, it is a matter that can be determined only in the individual case.

Decentering of the lenses to secure the prismatic effect should, of course, be given careful consideration in selected cases. A lens of 1 D must be decentered 1.75 cm. to obtain 1 degree of prismatic effect.

The value of prismatic exercises in esophoria is questionable. The writer has personally had little or no success in strengthening the externi in this manner, although he has carefully carried out the method in many cases. Most authorities are agreed that it is unsatisfactory.

Exophoria, due to convergence insufficiency and associated with myopia, is favorably affected, as a rule, by the correction of the error of refraction. Unfortunately, this type of exophoria is found frequently associated with hyperopia. In the writer's group of cases, exophoria associated with hyperopia was about as often noted as with myopia, and therefore correcting glasses in alleviating the muscular error would be of questionable value. Prismatic exercises, however, have proved of considerable advantage in this form of muscle imbalance. While the normal power of adduction is about 20 degrees, it is interesting to note how rapidly this power may be augmented by prism exercises.

Illustration: Dr. F. W., aged 29 years, complained of distress in all near work. Examination revealed a comparatively low error of hyperopic astigmatism. The Maddox rod revealed an exophoria of 1½ degrees. Adduction far, 16 degrees. Abduction, 5 degrees. Under

daily prismatic exercises the adduction prism was increased to 91 degrees in the course of two weeks, and all symptoms were relieved. This relief continued for several years.

If prismatic exercises prove fruitless, then prismatic correction, bases in, should be ordered of equal strength. In those patients in which near work is especially trying, prisms, base in, will as a rule, bring comfort. The writer cannot emphasize too strongly, in this connection, the importance of measuring the muscle balance for near. In many cases, the Maddox-rod test for distance will give orthophoria, while the near test may show from two to ten degrees of exophoria.

Illustration: Mr. B., aged 68 years, had a mixed astigmatism of high degree. Glasses were satisfactory for all distant use, but could not be used with comfort for over fifteen minutes. The muscles were in balance for distance; exophoria for near of 8 degrees. Prisms 2 degrees, base in, ordered before the two eyes. All discomfort in close work was relieved immediately. Cases of this type could be cited many times.

In exophoria caused by divergence excess, prismatic exercises are not of advantage. Unless the muscle error is excessive, few symptoms generally arise. The refraction error should, of course, be attended to and under, rather than full correction ordered. The hyperphoria always should be partially corrected, in the writer's opinion, when 1 degree or over 1 degree of muscle error is noted, and the correcting prism should be placed base down before the hyperphoric eye.

Most patients suffering from this muscular defect will be more apt to accept the correcting prism in front of the hyperphoric eye than in front of the hypophoric eye. Further, only when there is perfect balance of the obliques—and this occurs rarely—can prisms of equal strength be placed before the two eyes.

Prism exercises in cases of weakened convergence may be carried out in different ways. Dr. Charles E. Michell of St. Louis has reported considerable success in exercising the interni with prisms not stronger than 4 degrees nor weaker than 1 degree. First, with the weaker prisms the patient exercised frequently (two to fifteen times) during the day, each period of exercise to last only four or five minutes for the first few days. Later, they were to be worn only four or five times daily until the patient could wear them comfortably for one hour, the prisms being gradually increased to 4 degrees. Reading with the 4-degree prism was then advised for from two to five minutes daily until he could read for an hour four times daily. Later, a continuance of the reading-exercise practice was advised during several months, for from a half to one hour two or three times daily. According to his records, 50 per cent of his cases had full muscular power developed, 25 per cent were improved, and 15 per cent derived no benefit.

This method of prism exercise is given in detail by reason of the high percentage of successful cases. The method usually employed is that recommended by George T. Stevens. "Adduction may be greatly improved by systematic exercise of the interni by means of prisms. In this exercise, the eyes are required to unite images in overcoming gradually increasing obstacles." A prism of a few degrees, perhaps 10 degrees, is placed, base out, before some of the eyes, while gazing at a lighted candle, two feet distant, when an effort at once is made to prevent diplopia. As soon as the images are blended, another prism, of perhaps less degree, is placed in the same manner. The images being united, a stronger prism takes the place of one of those already in place, or one is added to those already in position. Thus, little by little, the eyes are required to overcome prisms until the images can no longer be united. The writer prefers, in carrying out the procedure, to have the patient closely approach the lighted candle, when fusion is the more easily obtainable, and then to have him withdraw gradually to a point 20 feet distant, in the meanwhile endeavoring to maintain fusion. Should diplopia reappear, then the patient is again to approach the candle flame closely, and the process is to be repeated until fusion is maintained for a brief period. In addition, prisms are ordered for exercise to be carried out by the patient in his home once or twice daily for not over 3 to 5 minutes at a time, increasing the strength of the prisms every two or three weeks. This method of exercise has proved helpful in many cases.

OPERATIVE TREATMENT

The writer must confess that he has had but little personal experience in the operative treatment of muscular imbalance. While brilliant results are reported in the way of graduated tenotomies or advancements, many ophthalmologists of eminence are inclined to operate but rarely in these cases. Yet it would seem the proper thing to do when efforts to give comfort to the patient have failed by the means outlined earlier in the paper. The form of operation to be decided upon would necessarily depend upon the type of error found.

In esophoria due to convergence excess, a

graduated tenotomy of the interni would appear to be the logical procedure; whereas in esophoria due to divergence insufficiency, an advancement of the externus would be indicated.

Illustration: Mr. J. L., aged 26 years, consulted Dr. Charles R. Heed on February twenty-seven, nineteen hundred twenty-two complaining of distress in all near work. A low refractive error of mixed astigmatism was present. Muscle balance: esophoria of the divergence-insufficiency type, 8 to 15 degrees, not constant; no hyperphoria. Prism correction of varying degrees had previously been worn to no advantage. Later, advancement of externus, right side, was performed by Dr. Heed, with complete relief of all symptoms. Esophoria was reduced to 2-4 degrees.

In exophoria, if due to divergence excess, a graduated tenotomy of the externi would be in order; but if due to convergence insufficiency, an advancement of the externi should be doubtful. Surgical interference on the vertical muscles could be carried out along similar lines.

RESULTS ACCOMPLISHED IN THE CONSERVATION-OF-VISION CLASSES IN PHILADELPHIA*

WITH A REPORT OF THE RESULTS WITH EACH PUPIL ENROLLED AND THE METHOD OF TEACHING THESE CLASSES

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The purpose of this survey, the first taken in Philadelphia, is to see what results were accomplished in conservation of vision by the sight-saving classes started in Philadelphia in 1920 for school children whose vision offered a barrier to their educational and industrial success.

The prime object of sight-saving classes is to give the children a good general fundamental education, without further endangering their eyesight. It is not intended that any of these children should enter into competition in the various trades taught the blind. Their work is not continued to the point where rapidity and skill are reached, but rather to the objective that will result in a good general education and not merely a technical one. Many of these children are of high intelligence—especially the myopes—so that a good general training with special attention to culture, thought, and initiative will fit them for positions of usefulness and responsibility without further risk to their impaired vision. This training fits them for such vocations as small traders, salesmen, collectors, social workers, etc.

A keen interest has been manifested in the efforts to relieve poor vision and blindness. Perhaps no condition of the special senses has been made the subject of more dissertations by physicians or been treated with a greater variety of supposed remedies. Neither has any affliction more consistently baffled the efforts to cure it. No sooner has some specific been lauded than experience has shown it to be limited in value or else practically useless. This is especially true in such conditions as progressive myopia, corneal opacities, nystagmus, etc.

These conditions, affecting children, as they usually do, at the preschool or school age, where promise of life is at its best, have left a sadder trail than any other infliction. Some have maintained that a cure is practically impossible in most cases and that only such preventive measures as will lead to stamping it out, should be our aim. It is quite possible that this view may be correct, because there is practically no known substance or method, likely to prove useful that has not had a trial.

The principal methods of treatment used up to the present day reveal mainly a chapter of failure with bright spots here and there. More particularly is this emphasized when it is considered that the net results as expressed in the present-day treatment are confined to prevention and a few simple hygienic measures. The direction which treatment took at various periods reflects accurately the general trend of medical practice in fashion at the particular time.

Ever since the establishment of the Philadelphia Eye Clinic for Public School Children in 1908, our Department yearly had found cases of defective vision that glasses would only partially correct or not help at all, making these children unfit to attend the regular classes. These included cases of progressive myopia, a high hyperopia, high astigmatism, corneal opacities, nystagmus, congenital and other pathological conditions which make poor vision.

Herding these children in school, and teaching them in mass the same thing at the same time in the same way and at the same rate of speed, resulted in failure. The old tradition of "all alike and all the same way" had to go. Many of these children, especially the progressive myopes, should not be educated in school at the expense of their eyesight. Heretofore, the worst cases were kept out of school. Being unable to work on account of certain provisions in the child-labor laws, there was nothing left for them to do but to roam the streets until they were 16 years old. When they were allowed to work,

*From the Eye Dispensary of the Bureau of Health, Philadelphia, Pa.

they were greatly handicapped in earning a livelihood on account of their poor vision and lack of education, both mental and vocational.

Finally, after a number of years of agitation by our Department, sight-saving classes for these children were established in Philadelphia in 1920, with a view to making full use of every sort of handicraft that will develop attention, method, and skill with minimum use of the eyes. The ultimate successful operation of these sight-saving classes depends largely upon the coöperation of the community. The public must be made to understand the difference between classes for the blind and sight-saving classes. These groups need entirely different means of instruction, by specially trained teachers, so as to make these children an asset instead of a liability to society.

Most candidates for these classes are examined by an oculist in the Bureau of Health Eye Dispensary, who makes the final recommendation. As a result of this recommendation, the candidates are assigned either to a normal or sight-saving class or, when necessary, to an institution for the blind. Our Department recommends to a sight-saving class all children having less than 20/70 vision, with their proper refraction in the best eye. The progressive myope was made an exception to this rule. When we find that a myope has markedly progressed for two consecutive years, even though the vision is better than 20/70, the child is also referred to the sight-saving class. Those having vision less than 20/200, in the best eye, with the best possible refraction, are referred to institutions for the blind. Children with poor vision and defective mentality are not referred to sight-saving classes, but rather to orthogenic or backward classes.

Many children in the sight-saving classes are cared for by the coöperation of special teachers in these classes, school nurses, and the Bureau of Health Eye Dispensary. By this method, the pupils are kept constantly under our observation. This system overcomes the great obstacle encountered in securing accurate data in this class of cases treated at hospital dispensaries having no official connection with the Department of Education. The data otherwise would be unreliable, because the retinoscopies and refractions in the average dispensary are not done at stated intervals, and are usually passed on to the novice or youngest assistant in the dispensary. At the Bureau of Health Eye Dipensary, these children, properly prepared by the school nurse, are examined at stated intervals by competent ophthalmologists, with large retinoscopic experience. The ophthalmic record of each pupil is filed with absolutely accurate data, so that reliable information may be given to the Department of Special Education at a moment's notice. Such information could not be obtained from a hospital dispensary.

From January, 1920, to December, 1925, there were 272 children (public-school 253, parochial 19; boys 124, girls 148) between the ages of 5 to 16, selected for the sight-saving classes, with the following diagnoses; high and progressive myopia 112, high hyperopia 23, high mixed astigmatism 6, corneal opacities 89, nystagmus 26, choroiditis 8, congenital cataract 5, aphakia 3, congenital displacement of lens 1, optic atrophy 2.

The accompanying chart shows a careful and accurate statistical analysis of each pupil in the sight-saving classes since 1920.

ANALYSIS OF CASES IN SIGHT-SAVING CLASSES SINCE 1920

SCHOOL.	Sight-Saving Classes.	Total Number Enrolled.	Ages.	Sex. Boys. White.	Sex. Boys. Black.	Sex. Girls. White.	Sex. Girls. Black.	Nationality. American.	Russian.	Italian.	German.	Armenian.	Austrian.	Polish.	Irish.	Hungarian.	Admitted by Bureau of Health Eye Dispensary.	Not Admitted by Bureau of Health Eye Dispensary.	Private Cases. With Diagnosis.	Private Cases. Without Diagnosis.	Diagnosis of Cases. Myopia.	High Hyperopia.	Corneal Opacities.	Nystagmus.	Choroiditis.	Congenital Cataract.	Aphakia.	Optic Atrophy.
Durham-Pollock	1	14	5–15	..	10	..	4	8	..	..	..	..	..	..	..	..	8	6	..	..	2	..	3	2	..	1	..	..
Baugh-Close	2	25	8–16	9	3	13	..	5	7	7	..	..	..	..	..	..	19	6	..	..	10	..	8	1	..	..	..	..
Weccacoe-Clay	1	16	11–15	5	..	11	..	2	5	6	..	..	..	1	..	1	15	1	..	..	6	1	5	3	..	..	..	..
George	1	17	7–15	8	2	3	4	5	4	..	..	..	..	1	..	..	10	7	..	..	2	..	3	4	..	1	..	..
Stevens	2	21	8–16	6	6	4	5	13	4	..	1	..	..	..	..	..	15	3	2	1	5	..	7	2	1	..	1	1
Columbus-Stockdale	1	11	7–15	7	..	4	..	2	2	5	..	..	..	..	..	..	9	2	..	..	4	2	1	1	..	1	..	1
Boker	2	23	7–16	8	2	13	..	16	1	2	1	1	1	..	..	..	19	1	2	1	9	2	6	3	..	..	1	..
Fairhill	2	27	7–15	12	..	15	..	17	1	..	2	..	..	2	1	..	23	4	..	..	9	..	10	1	3	..	..	..
Total	12	154	.....	55	23	63	13	68	24	20	4	1	1	4	1	1	118	30	4	2	47	5	43	16	5	2	2	2

1. Cases of myopia associated with corneal opacities are classified with corneal opacities.
2. Cases of myopia associated with nystagmus are classified with nystagmus.

An analysis of the forty-seven myopic cases, probably the most important group enrolled in these classes, reveals interesting data. Of this number, eighteen were examined for the first time, most of them being very high myopes, and a few marked progressive myopes whose vision



Fig. 1. Classroom of children with defective vision being taught a handicraft.

with glasses was better than 20/70. Twelve myopes had the same rate of progression before as after entering the sight-saving class. The average yearly increase in these cases was—1.00 D. Five cases did not progress two years before or two years after entering the sight-saving classes. Nine cases progressed much less after entering the sight-saving classes, than before entering, while three progressed more rapidly after entering the sight-saving class, than before entering. It might be that in the last group of cases, the rate of progression might have been greater if they had not been in the sight-saving class, although we have no way to ascertain this fact definitely. Taking all these cases together, it is apparent that the majority of them were benefited by the sight-saving classes.

In practically all the children afflicted with corneal opacities in both eyes, the visual acuity was the same after entering the sight-saving class as before entering. This included those cases associated with myopia and nystagmus. Corneal opacities certainly present a field worthy of experiment and research. In our clinic and in my private cases, negative galvanism was tried, as given in the New York public-school eye clinics. We failed to get the brilliant results recorded there. In fact, our results were so poor that we discarded this method as a routine treatment. In the hands of the writer, however, treatment with dionin, massage, and yellow oxid of mercury has given better results than negative galvanism in selected cases. These cases, however, are not the type of cases selected for our sight-saving classes. In nearly all cases recommended for the sight-saving classes, careful questioning of the parents usually elicits the fact that various methods of treatment gave little or no encouragement, and were eventually discarded after a long and faithful trial.

Most nystagmus cases were associated with compound myopic astigmatism, and a few cases with a fairly high degree of compound hyperopic astigmatism. Visual acuity in all nystagmus cases was the same after entering the sight-saving classes as before entering.

Cases of high hyperopia, high mixed astigmatism, choroiditis, optic atrophy and aphakia, all had the same acuity of vision before and after entering the sight-saving classes. One case of congenital cataract was successfully operated on, but the resulting vision with glasses was not sufficient to return the child to a regular class.

In order to have the complete history of all pupils enrolled in the sight-saving classes, it is of utmost importance that pupils recommended to these classes, shall be admitted only through the Bureau of Health Eye Dispensary. Private cases should be admitted on the same basis as dispensary cases. But the attending oculist should submit a proper report (diagnosis, visual acuity with and without glasses) to our Dispensary, so that a complete record of all children attending these classes is on file. This is not the case at the present time.

All pupils enrolled in sight-saving classes should be examined at least once a year. Be-



Fig. 2. Another conservation-of-vision classroom, showing the children at work under natural illumination.

cause of the unfamiliarity on the part of the teacher and the nurse with the ophthalmic diagnosis and prognosis of the children in their care, it should not be left to their discretion, as is the custom now, as to when and what kind of ophthalmic examination the cases need. The routine

examination is best accomplished, if the teacher will send to the clinic, at least twice a year (after the classes are organized in September and February) the names of all pupils enrolled in her sight-saving class. We can then, in a methodical manner instruct the school nurse at the proper time just what child to bring to the clinic for reëxamination, and whether to "drop" the child or not. Such cases as corneal opacities, choroiditis, optic atrophy, etc., need only to have their visual acuity recorded annually and no mydriatic instilled, while other cases, such as myopes, high mixed astigmatism, etc., must have a mydriatic examination. Border-line cases (those having 20/50 vision in their best eye with proper glasses) should be left to the discretion of the ophthalmologist as to whether the child should be placed in a regular or sight-saving class.

Following is a description of the methods of teaching in the sight-saving classes, by Gladys



Fig. 3. View showing another important feature in these classes—the individual instruction given the pupils. Note the large writing on the blackboard.

P. Ide, Director of the Division of Special Education of the Board of Education in Philadelphia, who organized and developed the course of education for the sight-saving classes:

THE METHODS OF TEACHING CHILDREN IN THE PHILADELPHIA SIGHT-SAVING CLASSES

The children placed in the sight-saving classes in Philadelphia are handicapped by poor vision to such an extent as to interfere with their progress in school. The problem is one of assisting the child to secure his regular grade work as much as possible. Because he needs the same material as the child with normal vision, the problem of teaching the child with poor vision resolves itself into the accommodation of teaching method to the material given in the regular grades. Sight-saving classes are limited in number to a minimum of ten and a maximum of twelve children. This is in order to give the teacher an opportunity to do much individual work with each child, and to give the child an opportunity to discuss his work with the teacher informally.

Children who do not read when they enter the class are taught. The methods used are the same as those common in good first grades. Phonics, word drill, silent and oral reading are basic. Special care is given as to the size of the writing when words or sounds are placed on the blackboard. The books are of the clear-type series published for the sight-saving classes, and the teacher watches carefully for fatigue, and limits the amount of time given to any single lesson if the recommendation of a physician suggests the need. When a reasonable proficiency is attained, very little emphasis is placed upon reading, as the child with poor vision is necessarily always handicapped in this field.

Much of the arithmetic in the sight-saving classes is done orally. Here the emphasis is placed upon processes. The child is taught the written forms, but always with very much enlarged figures, whether on the blackboard or on paper at his desk. The time allotment for oral, as compared to written arithmetic, is about as four is to one. In writing, beginners' or No. 1 pencils are used, with special paper without glaze and with ¾-inch spacing. The child is taught a whole-arm movement, which practically requires him to write with very large characters. Literature, geography, and history are taught entirely by the oral method, the teacher reading from books to the children, or giving a digest of the material. Special maps may be used for both history and geography. Much material comes from the homes of the children through other members of the family, either by reading or discussion. Informal discussions take the place of written work in the classroom.

Some training in manual arts is given to the children. Typewriting is taught by the touch method. Progress is necessarily slow in the beginning, but considerable facility is gained after practice, and many of the children do their manual-arts work very capably with very little use of vision. Projects are conducted in the manual field in correlation with history and geography. Illustrative work in clay, weaving, rug making, and many other arts can be done with the minimum of visual strain and the maximum of manual training if the objects made are of good size. No training in art is given excepting in the appreciation of very clearly defined pictures, or in views or scenes. The reading of music is taught from the blackboard with large-size characters—the same as is done in regular grades, and the children use a phonograph and

have appreciation work just as the regular-grade children do. The same amount of time is spent in health conservation as is done in regular grades. The establishment of good health habits, especially in the care of the eye, is emphasized; but the extensive study of diseases of the eye is not attempted, and so far as is possible, the neurotic tendencies which sometimes develop in handicapped children are avoided. The aim of the work done is to give the children a normal training with a normal outlook upon life.

1909 N. Broad Street.

PROBLEMS IN DIAGNOSIS OF NEUROSURGICAL CONDITIONS*

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While neurosurgery is and will undoubtedly continue to be a highly organized specialty requiring years of painstaking study, research, and training, the diagnosis of cases requiring the services of a neurosurgeon is a problem that almost daily confronts the general practitioner. This, then, is my excuse for taking your time to point out some of the pitfalls of diagnosis, not in the spirit of criticism but rather that we may read the signposts from a long series of cases that have passed through the clinic of Dr. Charles H. Frazier, to whom I am indebted for the material herein studied.

Whatever the lesion, every neurosurgical case should have as detailed and careful study as any case receives on a medical service, and in addition thorough neurological and special examinations. Often the history is the keynote, and the careful analysis of the symptom of pain alone may go a long way toward accurate diagnosis and therefore institution of proper treatment. Likewise, careful observation and study of the phenomena surrounding convulsions may revise a diagnosis of epilepsy and a brain tumor be removed with brilliant results. If physicians will view with critical diagnostic skill every case of headache, and not pass it by as neurasthenia or of toxic origin without a spinal-fluid examination with accurate manometer readings, and a study of the visual fields, together with retinoscopic and in many cases Bárány tests, they will save their patients endless suffering, needless dosing, and help to reduce the mortality of brain tumor by bringing such cases to the surgeon in time. In the same way, no case of hemiplegia, whether the onset be slow or rapid, can be dismissed until further study excludes neoplasm. Even with every means of study at one's disposal, the pathologist will frequently revise a diagnosis of hemiplegia due to vascular origin at the autopsy table by disclosing a tumor.

Neurological surgery naturally falls into three classes: (1) peripheral-nerve lesions, (2) cranial lesions, and (3) spinal lesions. Of the peripheral lesions, these have to do principally with trauma, and the examination presents such evident motor or sensory disturbances as to require little further investigation except for electrical reaction to determine the condition of the nerve. However, since the prognosis depends so directly upon the time elapsing between nerve injury and repair, efforts should be directed toward securing early surgical attention.

The cranial cases are grouped as follows: (1) trauma, (2) abscess, (3) tumors. No case calls for greater nicety of judgment than that of intracranial trauma. The consensus of opinion is everywhere becoming more conservative as to operation. Three subdivisions of cases are possible: (1) those which are doomed regardless of any treatment, (2) those which will recover spontaneously, (3) those intervening cases in which operation may be the lifesaving measure. Immediate operation is indicated only in compound fractures, presence of a foreign body, or depressed fracture with symptoms of hemorrhage. The management consists in absolute rest, external heat, sedatives, stimulation, and at times transfusion. The clinical signs are carefully observed and manometer readings made. As soon as the patient has rallied sufficiently, a neurological examination is done, and an x-ray taken. An hourly record of blood pressure, temperature, pulse rate, and respirations is charted. When the rising pulse pressure and the slowing pulse rate are equal, subtemporal decompression is seriously considered.

It takes only a limited experience with brain-abscess cases to demonstrate that the textbook picture is seldom seen. These cases are usually referred by the otologist or rhinologist. They present the greatest variety of clinical phases, depending upon the avenue of infection, location, and complications. The mortality is high, and only by the closest coöperation of all concerned can it be reduced. A recent case, in which two frontal-sinus operations had been performed, was under observation for several weeks with no localizing signs and few significant clinical phenomena to attract attention other than headaches and periods of decreased respiratory rate. When localization was finally possible, three ounces of pus was evacuated from the temporal

*Read before the Alumnæ Association of the Woman's Medical College of Pennsylvania.

lobe, and the patient succumbed shortly afterward.

Perhaps brain tumors are the chief center of interest. To suspect a brain tumor because of the triad of symptoms—headache, vomiting, and choked disc—is merely to state the problem. The patient has a tumor. Where is it? Is it operable? The first method of localization is the neurological examination. In a recent case, two degrees of exophthalmos, tremors of the right hand, the slightest possible exaggeration of reflexes on the right, together with a history of verbal aphasia, made possible a tentative diagnosis of frontal tumor. The patient was operated upon, and the tumor exposed and removed. From a critical comatose condition, she was transformed to normal mentality in less than a week. Frequently, the first finding of localizing value is in the visual field. Quadrantic defects, as registered by the perimeter before the patient becomes conscious of any visual disturbance, may occur before any other finding. The nomonymous hemianopsia, the bitemporal hemianopsia, and the contracted fields are of greater significance to the neurologist than choked disc. There appears to be considerable license with which the terms atrophy, choked disc, and papilledema are used by the ophthalmologist as well as by the non-specialist.

Very conflicting reports of the Bárány reaction are noted, both in our clinical studies and in cases reported. After hearing Professor Bárány's course of lectures last winter, several explanations can be offered: (1) as to technic, the structures under stimulation, being extremely delicate, require the most accurate and painstaking care; also there are undoubtedly many individual variations; (2) insufficient study both of single cases and of statistics; (3) difficulty in distinguishing between pressure changes due to the tumor itself and those due to secondary generalized intracranial tension. However, these tests are of considerable negative value, and of positive and absolute value in cerebellopontile-angle tumors. Unless a lesion is calcified, the x-ray gives little help in diagnosis, except when the localization is in the region of the sella turcica. For subcortical growths impinging upon a ventricle, the ventriculogram is of service. The procedure is not without risk, even in the hands of those trained in cranial surgery, and should not be adopted as a routine measure. Recently, at the operating table, deep growths have been located in several instances by means of electrical reactions. Normal brain tissue, being richer in fats, has a greater resistance than that of tumors, and is quite readily determined. Of course, serological and chemical studies are made as indicated, but a positive Wassermann does not answer all questions of diagnosis and treatment. The percentage of gummata in the brain is very small, and in the entire series at the Frazier Clinic only two have been seen. This low rate is borne out in other statistics. It appears that no special Providence guards the syphylitic from malignancy or other tumors.

Spinal-cord tumors are about one sixth as numerous as brain tumors. As a rule, the diagnosis and localization are easier. It is also to be noted that since a laminectomy is less dangerous than a craniotomy, the prognosis is better. While occasionally running a painless course, a persistent pain zone with occasional intermissions is the most significant symptom. If the pain is aggravated by motion, coughing, or sneezing, the evidence is sufficient to warrant a tentative diagnosis of tumor and exploratory operation. Paresthesias are the second symptom to develop, followed by definite sensory loss which may be homolateral or contralateral as regards the pain distribution. Within the year, three cases which had previously been called hysteria by eminent neurologists have been operated upon and tumor disclosed. Other errors in diagnosis have been "Pott's disease," "neuritis," "gall stones," and "sciatica."

The most distressing symptom which the physician is called upon to treat is pain. When shall we be able to distinguish pain of an organic basis and that which is functional or even psychic? Physiologists disclaim any responsibility for study of its origin, and pathologists are still too much concerned with specimens to consider living phenomena. To the clinician, and especially to the neurologist, we turn for some light. The use of opiates is at best only a makeshift and often fails. It is a most significant and interesting fact that two means of relief for indescribable suffering have been suggested by Dr. William G. Spiller; namely avulsion of the sensory root in trigeminal neuralgia, and cordotomy. The study of one typical case of trifacial neuralgia will emphasize in the physician's mind as well as in that of the patient what gratitude such relief deserves. It is to be remembered that not all pain in the distribution of the fifth nerve is amenable to surgical treatment. However, if of the true major type—paroxysmal, following accurately nerve distribution, lancinating, aggravated by contact, and disappearing entirely in the interim, not relieved by morphin but by alcoholic injection—the relief is certain. Of the atypical case which presents a wide variety of symptoms, more careful study is necessary, and even then, treatment is far from satisfactory.

To the rhinologist we turn for careful study of the sinuses. The nasopalatine, ciliary, and otic ganglions undoubtedly play an important part in the production of the vague symptoms of which these patients complain. The pain is constant, deep seated, and follows no nerve distribution strictly, is relieved by morphin and even by coal-tar products in some cases. Alcoholic injection fails to relieve these patients, in fact the pain is often aggravated by it. Occasionally, cocainization of the sphenopalatine ganglion does give relief, a procedure obviously for diagnosis and not for treatment.

In all, fourteen cases of cordotomy have been performed in the Frazier Clinic, and all have been successful. No permanent motor paralysis has resulted, and it may be said that the operation is no longer in the experimental stage. Thus far, three indications have been (1) inoperable malignancy, (2) painful war wounds, (3) intense hyperesthesia above a myelitis. While applicable to intractable pain in the lumbar and sacral region of any origin, further application in thoracic lesions and possibly in tabetic crises is our hope. Of course, pain and temperature sensation are lost on the side opposite to the section of the anterolateral columns.

3600 Walnut Street.

TREATMENT OF TUBERCULOSIS OF THE INTESTINE BY OXYPERITONEUM*

WITH REPORT OF CASES

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The use of oxygen in medicine and surgery was first brought sharply to the attention of the medical world by Bainbridge[1] in 1908. He made a further contribution in 1909,[2] in which he reviewed a series of cases of oxyperitoneum induced immediately following operations, and claimed that the oxygen acted as a germicide, that shock was less marked, and that the patient recovered more quickly from the effects of the anesthetic. In 1922, Stein[3] published an article in which he reported a case of exudative tuberculous peritonitis successfully treated by the intra-abdominal use of oxygen. In 1922, Bainbridge[4] reported a further series of oxyperitoneum cases, including four of tuberculous peritonitis successfully treated.

These reports, together with the simplicity of the treatment, appealed to the common sense of physicians in general; but curiously enough, comparatively little interest in oxyperitoneum was manifested until the publication of Laney's[5] article in July, 1924. This was followed in November, 1924, by an excellent article by Hayes,[6] in which he reviewed some cases of tuberculous peritonitis apparently cured by oxyperitoneum.

In this article, the intra-peritoneal use of oxygen in ulcerative tuberculosis of the intestines will be discussed particularly, and a few cases will be reported, but first the three general types of the disease, as found in the intestine, will be reviewed briefly from the pathological viewpoint.

The first is the ulcerative type. This is present in from 50% to 60% of all cases of pulmonary tuberculosis. It may be found in any portion of the intestine from the duodenum to the rectum, but is most frequently present in the region of the ileocecal valve. It begins in a solitary follicle or Peyer's patch as a small shotlike nodule which enlarges and undergoes caseation and ulceration. The longest diameter of the ulcer is usually at right angles to the long axis of the bowel. The peritoneal coat in the region of the ulcers is usually thickened, and exudation may lead to the adhesion of adjacent coils of the intestine.

The second is the stenosing type, in which the tendency toward organization is most pronounced, and stenosis of the intestine may result.

In the third, or hyperplastic type there is a proliferation of tuberculous granulation, tissue within the wall of the intestine leading to great increase in the thickness of the wall. This proliferation may occur either in the mucosa or serosa, and the usual site is the ileocecal region.

Clinically, it may be rather difficult to classify the three types, but the ulcerative is by far the most common and is the one we shall discuss. The symptoms are griping pains in the abdomen, particularly after taking food, loss of appetite, gassy sensations, diarrhea with mucus and possibly blood and pus in the bowel movements, great emaciation, and loss of strength. The usual treatment by nonresidue diet, bismuth, and astringents or opium does little permanent good. Having this in mind, and observing the satisfactory results following oxyperitoneum in tuberculous peritonitis, we reasoned that some of the cases of tuberculous peritonitis thus treated and apparently cured were probably accompanied by ulceration of the intestine. We began the treatment of a few patients suffering from well-marked tuberculosis of the intestines of the ulcerative type whose histories with a résumé of treatment and results are appended.

*Read before a meeting of the Los Angeles County Medical Society, California.

CASE I

Male, aged 22. Two brothers had died of tuberculosis of the lungs. He had an advanced case and had had artificial pneumothorax for about two and one half years. Six months before, he had begun to complain of pain in the abdomen and diarrhea. The stools were sputtery and contained mucus. The patient's temperature rose, and he began to grow weaker and to lose weight. Oxygen was introduced into the peritoneal cavity through a Salimen catheter placed just outside the left rectus and below the level of the umbilicus, according to the following plan, with gratifying results:

MANOMETRIC READINGS

	Begin Reading	*C.c.'s of Oxygen Given*	*End Reading*		
May 8, 1924	0	135	#2	#3	Cm. of water
May 19, 1924	0	200	#1	#1½	" " "
May 28, 1924	0	300	#1½	#2½	" " "
June 10, 1924	0	350	#3		" " "
July 3, 1924	0	400	#1½		" " "
July 10, 1924	0	400	#2		" " "
July 26, 1924	0	400	#1½		" " "
Aug. 9, 1924	0	500	#1		" " "
Aug. 16, 1924	0	400	#2		" " "
Sept. 3, 1924	0	400	#2		" " "
Sept. 20, 1924	0	400	#1	#2	" " "
Oct. 2, 1924	0	400	#1		" " "
Oct. 11, 1924	0	400	#1½		" " "
Oct. 25, 1924	0	400	#1		" " "
Nov. 8, 1924	0	400	#1		" " "

The patient now rarely has more than two to three movements in twenty-four hours and the pain is negligible.

CASE II

Female, aged 22, suffering from advanced tuberculosis of both lungs. She complained of severe griping pains in the abdomen, diarrhea, and loss of appetite. Oxyperitoneum was tried, according to the following plan, with immediate amelioration of symptoms:

MANOMETRIC READINGS

	Begin Reading	*C.c.'s of Oxygen Given*	*End Reading*		
Aug. 28, 1924	0	125	0		Cm. of water
Sept. 1, 1924	0	250	#1½	#1	" " "
Sept. 10, 1924	0	300	#1		" " "
Sept. 22, 1924	0	300	#2		" " "
Sept. 29, 1924	0	400	#1½		" " "
Oct. 17, 1924	0	400	#2		" " "

The patient voluntarily requested that the treatment be continued, and asked for it when the pain recurred. Owing to the extensive lung involvement, the patient's condition became so grave that the treatments were suspended, but even in this hopeless case, marked results in the way of relief of symptoms were secured.

CASE III

In another case of the ulcerative type there was severe abdominal pain and uncontrollable diarrhea. Oxyperitoneum was carried out as follows:

MANOMETRIC READINGS

	Begin Reading	*C.c.'s of Oxygen Given*	*End Reading*	
Sept. 10, 1923	0	200	#4	Cm. of water
Sept. 18, 1923	0	150	#3	" " "
Oct. 2, 1923	0	300	#4	" " "
Oct. 26, 1923	0	300	#3	" " "
Nov. 20, 1923	0	450	#1½	" " "

There was some pain at times when the treatments were given, but this soon disappeared. During the period of oxyperitoneum treatments there was marked improvement in the symptoms, but the patient found it necessary to return to her home and could not be followed up.

Another case of the ulcerative type was treated by my associate, Dr. Hayes, in a local hospital, and the patient was so much pleased by the relief obtained that she asked for further treatment. The nurses also remarked as to her improvement. She remained under treatment for some time and then left the hospital.

When it is borne in mind that the patients cited were all advanced cases and under ordinary circumstances would have been forced to take opium for relief of symptoms, it seems worth while to attempt treatment by oxyperitoneum earlier and push it vigorously.

Perhaps a word as to the method of giving the treatment might not be amiss. Any portion of the abdominal wall may be used as the point of entrance of the instrument, and it may be necessary to try several places if there are adhesions or fibrous bands within the abdomen. Novocain 1% is used to anesthetize the puncture track. The female part of the Salimen catheter is thrust through the abdominal wall until no resistance is encountered. The male part attached to the pneumothorax instrument, which has previously been filled with oxygen, is then inserted through the female part into the abdomen, and the oxygen allowed to flow in slowly, checking the intra-abdominal pressure on the manometer. Unless there are adhesions within the abdomen, 500 c.c. of oxygen may be given without any pain or discomfort whatever. The operation seems to be free from danger, and its only effect is slight exhilaration and relief of symptoms.

Bainbridge says the oxygen remains in the peritoneal space for from thirty-six to seventy-two hours but we have found that a longer time is usually required for absorption. The oxygen is taken up by the blood and eliminated as water and CO_2.

CONCLUSIONS

The treatment is simple and harmless.

It relieves the distressing symptoms in the ulcerative type of tuberculous enteritis, and if

the treatment is begun early in the disease, may effect a cure.

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April, 1922.

THE CLINICAL CONGRESS OF THE AMERICAN COLLEGE OF SURGEONS

The fifteenth annual Clinical Congress of the American College of Surgeons was held in Philadelphia, with the annual hospital conference October 26-29, 1925. Clinics and demonstrations at the hospitals and medical schools provided an intensely interesting program for the mornings and afternoons of the session, with scientific sessions each evening. Without doubt, this session surpassed in scientific interest and in attendance all previous sessions

The doors of the City of Brotherly Love were ajar and hands outheld to the members and guests of the College as it convened in the city that established the first medical school, lecture, journal, and hospital in the country. These meetings lay stress on all avenues and agencies conducive to the triumphs of preventive medicine that in a millennial epoch would deprive a doctor of his occupation. It is because of a rare unselfishness of consecration in a calling often roundly abused or slighted by the ignorant, that an understanding and experienced community such as Philadelphia was glad to offer its congenial environment for this meeting. This was the second time in four years that the Clinical Congress has met in Philadelphia. There are only four American cities in which there is sufficient wealth of clinical material and sufficient accommodations of every sort to make practicable the meetings of the American College of Surgeons—Philadelphia, New York, Chicago, and Boston.

Among the distinguished guests may be mentioned Lord Bertram Dawson, of Penn, physician to the King of England and Prince of Wales; Sir William Arbuthnot Lane and Dr. Philip Franklin, London; Dr. Forsten Rietz, Sweden; Professor Vittorio Putti, Bologne, Italy; and Dr. William Blair Bell, Liverpool.

Dr. Rudolph Matas delivered the address of the President-Elect, in which he acclaimed Philadelphia's acknowledged position as the center of American medical science. Dr. Matas stated that "eighty per cent of the medical books published in this country were printed in Philadelphia, and half of them are written by Philadelphians. The rest of the country is sporadic in the publication of medical literature. Most of the leaders of the surgical profession in all parts of this country are Philadelphia-trained men."

Dr. Charles H. Mayo, the retiring president, stated: "There is a real need in America that more physicians should give to the community the value of their special knowledge by serving as members of legislatures. That has been done in Kentucky, for example—and as one of various results, Kentucky now has a model system for licensing practitioners of medicine."

Sir Arbuthnot Lane, the distinguished London surgeon, delivered the John B. Murphy Oration in Surgery, in which he urged all peoples "to eat foods that will give what primitive mankind gets. Instruct mankind about foods, and then a new people will grow up replacing the miserable specimens of humanity who now constitute a large proportion of our population, especially in the large cities." He expressed the conviction that the most potent means of preventing cancer is the elimination of chronic intestinal stasis.

M. Thierry de Martel, professor of surgery at the University of Paris, declared that the main advance of the United States compared to France is in "team work." He said the French physicians are too individualistic. He is impressed with the referring of a patient from one specialist to another for study, which is the exception in France. Lord Dawson suggested the necessity that before becoming a specialist, a physician should acquire experience in general practice, in order, among other things, that the fundamentals of diagnosis may be acquired. This statement is absolutely correct, but does not fit in with the present-day method, by which physicians become specialists, not only at the beginning of their careers, but actually previous to graduation.

Lord Dawson plead for full-time hospital staffs. He stated that "the full-time man, undistracted by the prospect of private practice, can keep in better touch with progress in biochemistry and studies in metabolism. In the sweltering life of a great city there cannot be the requisite feeling of restfulness and detachment if a man is forever at the call of a telephone, etc."

Dr. A. Mural Willis of Richmond, stated that the mortality following surgical operations has tremendously increased in the last 20 years, and intimated that the reasons for this increase proceeded from a wide variation in the technic employed by different surgeons for different maladies, and from serious operations being performed by inferior surgeons who have been

misled by optimistically false reports of success from the accepted leaders of the profession. "Impressed by the brilliancy of the results obtained by these famous surgeons and too often misled into believing the technic of a difficult and dangerous operation is simple and free of risk to the patient, more and more operative therapy is being carried out by many in this country with little experience in such grave surgical procedures. Are all such operators meeting with the success that appears to crown the efforts of their more distinguished brethren? They rarely discuss their results in the pages of the medical journals, so that direct evidence as to what is being accomplished is generally lacking." He said, in conclusion: "Destructive criticism is of small value unless it prepares the way for subsequent improvement. The presentation of facts which has just been made indicates something is radically wrong with the modern surgical treatment of certain important conditions. Can this be remedied? It would seem that the first step would be the appointment by the American College of Surgeons of a commission composed of the leading surgical teachers of this country, the function of this commission being to direct a thorough investigation of the whole question, with a view to effecting some degree of standardization of the methods of treatment of these diseases, regarding which at present there seems to be such a complete lack of agreement."

The Board of Regents adopted a resolution providing for a special celebration of the centennial of the birth of Lord Lister, April 5, 1927, at which time in all probability a special meeting of the College will be held.

One of the outstanding events of the session was a "dry" clinic given by Dr. J. Chalmers Da Costa at the Jefferson Hospital. It was the regular weekly clinic he conducts for his students. Many visitors attended this clinic. The amphitheater was crowded to hear him give a clinical dissertation, with several patients as examples. Suffering from arthritis, the celebrated surgeon was wheeled into the room to address the gathering, which accorded him an ovation at his entrance. Speaking with mental vigor unabated, he was setting forth the cause and symptoms of an obscure disease when Sir William Arbuthnot Lane entered and was introduced to the assemblage. Later Dr. William Mayo came in. Dr. Da Costa again paused and said: "I need not tell you who this man is." The students rose to their feet with cheers. Dr. Mayo at once responded: "I am glad to have this chance to pay my tribute of homage and respect to the greatest teaching surgeon of America." Said a doctor who was present: "It was a splendid recognition of one great apostle of healing by another. There was Da Costa, undaunted by a malady which has so stiffened and crippled his fingers that he can no longer operate, instructing others who shall take the torch from those fingers and carry it on. With his luminous intellect and his profound knowledge, he was saluted by another world-renowned practitioner, become for the time his willing disciple, sitting at the feet of Gamaliel. It was an object lesson that none of the most cynical or careless among the students who witnessed the scene can ever forget; it was the flash of a vision of the meaning of our profession. I thought I was hardened, but there was a lump in my throat, and the men beside and around me were equally moved."

Taking advantage of the presence of Lord Dawson of Penn, Dr. Charles H. Mayo and Dr. Rudolph Matas, the University of Pennsylvania held a special ceremony, and conferred on each the honorary degree of Doctor of Science.

Too great credit cannot be given to Dr. M. T. MacEachern, associate director for the hospital information and service bureau which was maintained in the headquarters throughout the session, to give assistance to any hospital seeking solutions of its troublesome problems; and for the able coöperation and assistance rendered by Dr. Joseph C. Doane, Medical Director and Superintendent of the Philadelphia General Hospital.

The following officers were elected: Dr. Rudolph Matas, New Orleans, president; Dr. Walter W. Chipman, Montreal, president-elect; Dr. Charles F. Nassau, Philadelphia, second vice-president.

HOSPITALS NEEDED FOR CHRONIC CASES.—The problem of the chronic incurable apparently is a difficult one for hospitals to solve. Every hospital not devoted to the exclusive care of such patients can show by its records the undue number of bed-days such patients spend in hospitals devoted to acute work. When there is a great demand for beds in such hospitals, it would seem unfair that the chronic incurable should occupy those so badly needed for acute cases.

Then, too, the chronic incurable demands a greater amount of attention of the nursing service than do other patients. It is because of the care and attention required that these patients seek admission to hospitals. On the other hand, skilled care and attention is infrequently required. The chronic incurable should be able to receive care and attention at less expense in places other than a general hospital, if such accommodations were available.

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EDITORIALS

CHRISTMAS GREETINGS

Shadows lengthen. Autumn's foliage burns to the glowing embers of a glorious summer. Summer has yielded. Fall totters, and Winter, in her ermine robe, prepares to rule. The season of Peace on Earth and Good Will Toward's Men fast approaches. The JOURNAL extends to its readers and their families a Merry Christmas and a very Happy New Year.

THE ANNUAL CONFERENCE OF SECRETARIES OF STATE MEDICAL ASSOCIATIONS

The Conference was held at Chicago, November 20-21, 1925, and the editors of the various State Medical Journals were invited to meet with the secretaries.

The Board of Trustees of the American Medical Association were the hosts of the occasion, and the guests in attendance are grateful for their most gracious hospitality. The occasion proved to be one of intense medical instruction and of social value. Friendship is a flower that buds forth in the garden of acquaintanceship, flourishes in the warm atmosphere of association, and matures in the golden light of companionship. Its tendrils bind human hearts together in bonds that are stronger than death. Such are the friendships that are made at these meetings, which do more than anything else to cement the body politic together for a more united profession and a greater American Medical Association. An extended account of this conference will appear in the January number of our JOURNAL.

SYPHILIS OF THE AORTA AND HEART

It is interesting to learn, from pathological reports, the relative frequency of syphilis of the heart and aorta compared with the incidence of visceral syphilis in general.

An intelligent patient with syphilis is usually much worried about his chances of having locomotor ataxia. He knows about paresis and fears insanity as a probable result of his syphilis, but he is never disturbed over his chances of dying of angina pectoris or aortic disease or aneurysm.

According to Wm. D. Smith,[1] the chances of a cardiac death in syphilis are not only greater than those of death from disease of the central nervous system, but probably greater than from all other forms of visceral syphilis combined.

The reports from various clinics and pathologists give different statistics. Lentz (Elliott),[2] speaking of the urban population of Germany, stated that 25% of all syphilitics die of aortitis or its consequences, as against 3 to 4% from paresis, 1 to 2% from tabes, and 10% from all other forms of visceral syphilis.

Reid,[3] in an analysis of the Massachusetts General Hospital cases, found 54 cases of aortic syphilis in 1,678 autopsies, an incidence of 3½%. Lamb,[4] from the Presbyterian Hospital in New York, reported 47 cases in 1,024 autopsies; an incidence of 4½%. In R. C. Cabot's[5] series, syphilitic aortitis represented 13% of all organic cardiac disease, including hypertensive and renal hearts.

Lamb,[6] reviewing various statistics and comparing them with the Presbyterian figures, draws conclusions probably conservative, that syphilitic aortitis occurs in 4 to 7% of autopsies in a general hospital, that it accounts for 15 to 25% of

all organic heart disease, and that it occurs in from 50 to 75% of all syphilitics.

From an academic point of view, the most striking and significant evidence of the frequency of syphilitic involvement of the heart and aorta was the work of Warthin,[7] of Ann Arbor. In a two-year period, 33% of the total adult cases autopsied showed active syphilis, either by characteristic lesions or by the presence of spirochetes. Of cases so proved by autopsy to be syphilitic, Warthin found active lesions in the aorta in 78% and in the heart 88%. He drew the general conclusion "that the heart and aorta of every syphilitic are infected."

The striking difference between these figures and those of the Massachusetts and Presbyterian Clinics suggests the possibility that the pathologists may not be talking about the same thing, and the Massachusetts Hospital statistics may well represent the gross clinical incidence of the disease, while Warthin's figures may represent the histological changes, frequently requiring long search for their demonstration and showing the incidence of infection and its persistence in clinically cured and inactive cases.

It is important to realize that the significant lesions forming the background for most of the recognized clinical types of syphilitic heart disease (dilation of the aorta, aneurysm, aortic regurgitation and angina) are those beginning in the aorta; that the usual starting point of the process is the first portion of the ascending aorta above the aortic ring and the mouths of the coronaries, causing aortic regurgitation or angina; and that whether the process ends in aneurysm, aortic disease, or angina, the primary process is a localized aortitis.

It is generally a disease of middle life, standing between the rheumatic group in younger and the arteriosclerotic group in older persons, and is far more common in men than in women. While the disease may manifest itself within wide time limits after the primary infection, the period of infection and symptoms probably averages from fifteen to twenty years. In the late stages of aortic and cardiac syphilis, the signs and symptoms are dependent upon the anatomical lesions present; that is, the signs ordinarily associated with aortic disease, angina, or aneurysm—usually a well-marked clinical syndrome, recognized and well understood by the average clinician.

The real problem is the early detection of aortitis before it has produced gross and irreparable damage. If we could detect clinically the changes in the heart and aorta which Warthin could demonstrate after prolonged search, we could prevent many unfortunate end results.

The early signs of aortitis are obscure and often are absent. In no condition is an early diagnosis more difficult, for a syphilitic involvement of limited extent and localized in the ascending aorta before the production of gross anatomical damage gives no characteristic sign. We may, however, get hints, and, in the absence of other known cause, any obscure chest sign or symptom should be regarded as such a hint. Such complaints as a sense of substernal pressure, of constriction mild or severe, slight shortness of breath, paroxysmal dyspnea, chest pains, palpitation, or even a sense of weakness and lassitude; the finding of a cardiac irregularity, tachycardia, poor heart sound, unexplained murmurs especially in the aortic area, a loud bell-like aortic second sound in the absence of hypertension, a suspicion of increased supracardiac dullness or too ample pulsation in the suprasternal notch, should suggest the possibility of central vascular syphilis. The employment of modern methods of diagnosis may determine the true nature of the disease.

The institution of early treatment will prevent the later cardiovascular lesions and the suffering and distress so commonly seen by the internist and syphilographer 15 or 20 years after the initial lesions.

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RESPONSIBILITY FOR THE SUPERANNUATED PHYSICIAN

In these days of rapid progress and revolutionary developments in scientific knowledge and methods, it is easy to get out of touch in a year or two and to become superannuated in a decade. The State has accepted the responsibility of enforcing requirements for proper education and preparation before issuing a license to practice; but so far, the duty of keeping the licensed practitioners up to date has fallen on the individuals themselves or on medical organizations.

That the problem has not been adequately met is testified to by the large amount of criticism that has been leveled at the profession; by the number of physicians who do not belong to any medical society, or if they do belong, fail to attend meetings; who do not take the time for postgraduate work or perhaps cannot afford the

expense; who seldom read the few medical journals to which they do subscribe; and who are content to remain in their own little rut, From this class is recruited the men who look askance when patients call for health examinations, and who are largely responsible for the plaint that the doctors themselves are not prepared to carry on this great function of preventive medicine.

Unless we ourselves take up this burden, there is danger that the people may demand its assumption by the State. Legislation, however, would scarcely provide the proper remedy for the condition; it can be handled better from within. And it is not only a legitimate part, but indeed an obligatory part of the missionary function of the State Society and its component branches.

A few years ago, the Graduate School of Medicine of the University of Pennsylvania inaugurated a plan of postgraduate extension work that would seem admirably to fit the needs of the situation. A few county societies have taken advantage of the courses offered; but the response has been far from as unanimous as it should be. In addition to the extension work offered by "Penn," faculty members of all the medical schools in the State and staff members of the hospitals within its borders are willing, at any time, to respond to requests to address the various county societies, or give clinics, or both.

Their services should be more freely used to bring to the threshold of every physician in the State the latest in medicine, surgery, and the specialties. Every county society should make plans for some type of postgraduate work during the coming winter months—whether it be a regular extension course, or a course of lectures and clinics by instructors from several schools, and the full weight of the county and State societies should be thrown back of this movement to increase the average efficiency of the physicians throughout the State. A thorough canvass should be made of all medical practitioners in every district, and the force of medical public opinion should be so applied that to join the classes would be the course of least resistance. If every one will join in this movement, a medical revival of learning can be inaugurated such as has never before been experienced.

The Canadian Medical Association is reported to have accepted a grant of $30,000 from a life insurance company to conduct a course of postgraduate lectures throughout the Dominion. This will be used largely to help the rural practitioners to keep abreast of the times

If it pays a commercial organization thus to aid in increasing the efficiency of medical men and women in general, how much more will it profit the profession itself to insist that its backward members improve their equipment for up-to-date practice? What excuse can be offered for failure to use to the full the advantages brought to our own doors, at a minimum of cost, by the various opportunities offered within our own borders?

PHARMACY BILL VETOED IN WISCONSIN

Declaring that the Staab Pharmacy Bill relating to the future ownership of drug stores would "perpetuate a corporate monopoly in chain drug-store business," Governor John J. Blaine disapproved the measure on June 26th. The bill, as presented, held that in the future only registered pharmacists might own drug stores. This was amended to except those licensed to practice medicine and surgery. The bill also excepted all present owners from the operation of the proposed new law and provided that where a corporation was the owner of a drug store or drug stores at the present time, such corporation might continue to do business, and if it saw fit, extend its ownership. It was against this latter provision that the Governor voiced his main objection (*Wisconsin Medical Journal*). The Wisconsin bill undoubtedly is weak in the provision which would permit expansion of chain stores already established. It would appear, however, that the underlying principle of requiring the control and direction of a retail drug store to be in the hands of a responsible trained pharmacist is not weakened in any manner. The question must be viewed from the standpoint of protecting the rights of the public in the matter of health safeguards, and it surely would not require much eloquence to convince the physician or patient that their prescriptions compounded in a drug store owned and supervised by a registered pharmacist should excel in quality those from a drug store owned by a bricklayer or bootleg king and supervised by a registered clerk whose job would depend upon the whims and caprices of his untrained and irresponsible employer.

The question might be raised with reference to the denial of "property rights." Are there property rights in a thing which it is illegal to possess? If the public welfare is safeguarded by legislation limiting drug-store ownership to druggists, there can be no loss of property rights to any one not a druggist. We agree with the

"equal rights" argument, and would state it as our opinion that pharmacy-ownership bills should provide against the further expansion of drug-store chains from the date of effectiveness of such legislation. Those in existence should not be interfered with, of course, by reason of the fact that such legislation would be retroactive.

The ideal condition, which may be realized in the dim and distant future, is one wherein each drug store is required to be under the direct management of the owner, who would be required by law to be a registered pharmacist, and whose activities would be limited to the conduct of a single store. The question of advanced education and expansion along scientific and technical lines, as opposed to intensive merchandising activities, is involved in this dream, and it may also involve the separation of drug stores into classes.

THE HOSPITAL MUSEUM

At the recent meeting of the State Society, the pathological exhibit caused some comment in view of the fact that the collection contained a number of unusual specimens, all of which were obtained at operation or autopsy in one of the smaller hospitals of the State within the past two or three years. A list of some of the more interesting specimens is appended to this editorial.

The exhibitor many times was asked to explain how so large a variety could be collected in such a short time in a community with less than 100,000 population. The reply was that every tumor and all tissue removed at operation in this hospital (including appendices and even tonsils) is sent to the laboratory for a careful gross description by the pathologist, and also for histological examination if an absolute and certain diagnosis cannot be made grossly.

Many specimens which otherwise would have been destroyed were preserved and mounted by the pathologist. For example, a uterus with several large fibroids, which ordinarily would have been discarded, was found, upon minute inspection, to contain an enlarged tube with a very small but perfect fetus within the membranes. Again, an enlarged tube encountered during an appendectomy, on examination was found to contain a twelve-day-old fetus.

If the practice were followed by all hospitals of sending to the pathologist for careful examination and written description all tissues removed at operation, many fine museums of pathological specimens would be established in the smaller communities throughout the State. These would be valuable, not only for exhibition purposes, but for research and teaching as well.

INTERESTING PATHOLOGICAL SPECIMENS AT THE RECENT SCIENTIFIC EXHIBIT

Two cystic kidneys, one with a double ureter. Two kidneys with large calculi *in situ*—one calculus weighing 150 grams. Normal kidney with double ureter. Horseshoe kidney. Small multiple abscesses of kidney, with purulent cystitis. Large multiple abscesses of kidney. Tuberculosis of kidney. Large sarcomata of both kidneys in an eleven-months-old infant. Splenomegaly from Banti's disease. Hypernephroma of suprarenal gland. Hypernephroma of liver. Tænia echinococcus cysts from intestines and liver. Tænia echinococcus scolices (under microscope). A four-day-old infant with complete transposition of viscera and persistent ductus arteriosus. Two anencephalic monsters—one with complete spina bifida. A large fetus (7 months) within unruptured membranes. Twins within membranes. Three-months fetal triplets. Hydrocephalic fetus. Abscess of cerebellum. Gumma of pons varolii. Large hemorrhage into lateral ventricle of cerebrum. Hemorrhage into occipital lobe of cerebrum. Annular abscess of pyloric valve, causing complete obstruction. Portion of stomach with two gastric ulcers, one perforated. Gall stone under mucosa of duodenum. Syphilis of the stomach. Rupture of uterus in scar of old cesarean section. Rupture of uterus with placenta prævia. Fractured vertebræ, with injury to cord. Perforation of aorta. Avulsion of thumb with extensor and flexor tendons. Unruptured tubal pregnancy with twelve-day-old fetus. Fibromyomata of uterus with unruptured tubal pregnancy. Intussusception from man of 43 years. Intussusception from child. Volvulus. Typhoid ulcers of ileum. Tuberculosis of ileum. Gall stones walled off in fundus of gall bladder.

MINNESOTA'S PLAN OF HEALTH EDUCATION

A most interesting plan of health education has been developed by the University of Minnesota. At the Hennepin County Medical Society's health exposition, the Minnesota State Fair and elsewhere, booths were erected, and in each booth a few simple health facts were presented in a manner calculated first to attract the attention of visitors to the fair, and then gradually to lead them on to a knowledge and understanding of the various subjects.

There were booths showing the progress of cancer, and that only beginning cancer may be cured; showing that goiter may be prevented during childhood, and the methods of prophylaxis; that toxin-antitoxin protects from diphtheria; and that recent vaccination protects against smallpox. The "nutrition booth" taught that "children need a well-balanced diet," and illustrated this by white rats. The tuberculosis booth urged the need of early detection and

prompt treatment. The periodic-health-examinations booth attracted attention by an immense blood-pressure apparatus, and an attempt was made to interest people in having a complete examination. But to our mind, the prize booth was the one on medical education. At this, the demonstrator would call a boy from the crowd with a question such as "How would you like to be a doctor?" The boy then was conducted around the booth, and the various phases of the medical course were explained to him. Others, of course, would be attracted, and would follow the boy with the greatest interest, learning, meanwhile, to appreciate what it means to be a doctor. This is one of the best methods of propaganda yet discovered to increase the public confidence in the profession.

An especially interesting development in these exhibits was the replacing of faculty demonstrators by medical students. The enthusiasm and lack of self-consciousness of the students was found to appeal to the crowd, and the training also was found to be excellent for the students.

The exhibit was largely a result of the efforts of Wm. A. O'Brien, M.D., of the Department of Pathology, University of Minnesota, Minneapolis, Minn. Societies desiring to conduct a health exposition or to present a few booths at some of the many county fairs to be held next summer, may secure full information from Dr. O'Brien. Now is the time to begin plans for the summer's propaganda work, for good results cannot be secured by leaving the organization of committees to the last minute.

A NURSING PROBLEM

"Man's inhumanity to man makes countless thousands mourn" could well be paraphrased when applied to the nursing problem and made to read: "The average nurse's inhumanity to sick people makes countless thousands mourn." It would seem there is no longer but one thought in the minds of most nurses when called upon to take care of the sick, and that is the commercial side of the question. When a physician asks a nurse to take care of a patient for him now-a-days she asks (1) what kind of a case is it; (2) where does the patient live; and (3) whether or not there is or will be another nurse on the case, she declining to take the responsibility of the patient for more than twelve hours out of the twenty-four, although some members of the family may be willing to relieve her a sufficient number of hours for her to secure ample rest and recreation out of doors. If the cause of the illness is not one that appeals to or interests her, she will not take the case; if the patient's residence is not so located that she may readily have access to the places she wants to go during her time off duty, she may refuse; while, in many cases, if the patient is not in a hospital, she will not consider for one moment its acceptance.

What would happen to physicians if they would treat only such diseases as appealed to and interested them; would take patients only in hospitals, or only those who lived in certain neighborhoods; and would be willing to visit such patients only during twelve out of the twenty-four hours of each day? It would seem high time for a change in the nursing curriculum by which less time would be devoted to lectures and scientific training, much of which is similar to that given to medical students, and more time devoted to practical nursing and the teaching of the ethics of the nursing profession. Nurses' directories might be asked to refuse registration to a nurse (1) who would take care of certain diseases only (possibly with the exception of the acute contagious diseases, maternity cases, and the insane); (2) who would restrict her activities to certain districts; (3) who would refuse a patient unless in a hospital; or (4) who would refuse other than twelve-hour duty. There could be no objection to a nurse being permitted to express her preference when registering, and the directory respecting the preferences when possible, but the nurse should be given to understand that she would be expected to respond to any call she received, even though at times her preferences had to be ignored.

This situation exists to a greater extent in the larger cities, where not a few physicians have met the problem by refusing to permit a nurse to be assigned to their patients unless willing to respond to the usual demands made upon her.

CARE OF TEETH IN CHILDREN

At the annual session of the American Dental Association and allied organizations recently held in Louisville, Ky., great stress was laid upon the necessity for the proper care and attention of the teeth of children.

"Good teeth are an economic necessity as well as a necessity to the growth and development of the child. Children with infected teeth invariably are found to be subnormal and behind their regular classes. Experiments and work among the children of schools have proved this conclu-

sively. It has been proved in every community in America."

Defects of the teeth are the most frequent and most numerous of all the health defects of childhood. In the great majority of the schools, both rural and urban, from 50 to 98% of the children have defective teeth—health defects which are actually or potentially dangerous and detrimental to health, normal development, and sound education. The correction of the dental defects of the youth of America is the largest problem in the entire range of correction of remediable physical health handicaps.

As the children invariably are first seen by the family doctor, he must appreciate his responsibility in referring these patients to the dentist for early attention. Too frequently he passes the question off with a wave of the hand or a shrug of the shoulder. He should appreciate the baneful and far-reaching effects on the child's health and development, of carious teeth, malocclusion of teeth, and other dental defects. He should seek the opinion of a dentist, and urge that the proper dental care be observed.

Save the teeth of children, and you save the men and women of tomorrow.

THE DUTY OF THE MEDICAL PROFESSION IN PROHIBITION ENFORCEMENT

It may be claimed that legislation and force have failed to bring about prohibition enforcement. In the opinion of Rev. F. Ernest Johnson, enforcement, now that the Government has dried up the sources of supply within its jurisdiction, depends upon "the education of the people in the moral and economic significance of prohibition." In this view the writer concurs. Besides these aspects of the question, there is also a medical or a health side; and from this viewpoint, there are ideal possibilities to be seriously considered. The medicinal use of alcohol is a subject apart, and one not under discussion here.

The medical profession is vitally interested in the public health and welfare, and on account of its knowledge of the existing situation regarding violations of the Volstead Act, and the dangers which too often accompany and follow the ingestion of poisoned spirits, as well as on account of its knowledge of the ill consequences of the habitual use of alcohol that has been tested and found to be reliable, the profession should have part in the campaign of education that is proposed. True it is that a considerable proportion of its members honestly believe that prohibition is a mistake; and their opinions are entitled to respect. The major portion, however, are in sympathy with the purpose of prohibition and, therefore, should become active participants in the proposed educational program. Writers of medical textbooks concur in the opinion that alcohol enters into the etiology of many chronic diseases, including chronic bronchitis, gastro-intestinal catarrh, chronic nephritis, and arteriosclerosis.

The purpose of this editorial is to urge physicians who believe that prohibition enforcement would benefit the human race, to formulate and then carry out a program of education of the public. They could lend strong moral support to the organized forces endeavoring to bring about enforcement of the Eighteenth Amendment. Medical societies and medical journals, as well as welfare organizations, should enlist in this laudable, humanitarian enterprise. The writer feels strongly that the medical profession, which is noted for its altruism, has fallen short of its responsibility to the public in regard to this question, which is one of momentous significance.

Once the general public is thoroughly enlightened as to the ill effects of the intemperate use of alcohol, more general coöperation will be secured, and public welfare will be placed above custom and personal liberty, the deeply intrenched appetite for alcohol notwithstanding. It has been said well that the final judgment as to the prohibition law most probably will be postponed for a generation. In the meanwhile, the medical profession has an outstanding obligation to discharge in connection with the governmental and local efforts everywhere to secure law enforcement, and the only justification for its failure to engage in the proposed program of education is an honest conviction to the effect that prohibition enforcement is undesirable.

JOTS AND TITTLES

THE AUXILIARY DEPARTMENT

Don't fail to call your wife's attention to the recently established Auxiliary Department of the JOURNAL. It gives the latest news of the women's activities throughout the State, and will be of interest to her whether there is an auxiliary in your county or not.

THE YANKS ARE COMING!

Since the General Federation of Women's Clubs has decided to sponsor a nation-wide health movement, and has declared war on disease of all kinds, but especially against the forms which arise from insanitary conditions, bad housing, and community negligence, the medical profession had better prepare itself also for the fray. It looks almost as though our propaganda had run away with us, and it would be distinctly embarrassing to have the women transform us into merely an "also ran."

ET TU, BRUTE!

The Church of England, too, is on the job! It has appointed a committee of physicians and clergymen to be Church advisers in the matter of faith-healing. The Archbishop of Canterbury says that it is an attempt to bring the medical and clerical professions closer together and to accentuate the spiritual elements in the diagnosis and treatment of disease. Next, it is the purpose of the Church to lift the whole business of such healing to a higher plane and dissociate it from the sensational. Finally, this is the first really big step toward the recognition of spiritual healing and placing it on a really scientific basis. Maybe it's going to be the finest thing ever; but between the women and the Church, the profession will have to "sprint some" to keep up!

GROUP MEDICINE AND POSTGRADUATE WORK

News has reached this column of an office recently opened in Florida by a group of five men, each one an expert in his particular branch of dentistry. This, of itself, is not startling, but we were attracted by the statement that it is "the ideal of the group to have each man do a year's postgraduate work every four years." If group medicine will hasten this dénouement, may its coming be prompt and thorough!

CLEAN TEETH DO DECAY

That the toothbrush has a very small contribution to make towards the prevention of dental decay is said to have been the claim of a speaker before a section of the American Public Health Association recently. Faulty habits of eating are the fundamental basis of this great defect in American health, he said, and proper diet is the only remedy. Well, maybe so; but we believe we'll hold onto our toothbrush for a while longer!

TRY IT YOURSELF

A county-society secretary writes us: "Kindly send me at once one thousand Periodic Examination Records and bill me. One of our members is taking them to mail one to each of his patients. Not a bad idea!" We'll say it isn't! Many of the dentists send notices to their patients when it is time for the periodic examination. Why not physicians, too? The service is usually appreciated.

THE RENAISSANCE OF PHYSIOTHERAPY

Most physicians have more or less neglected to use the various methods of physiotherapy, but it is gradually coming into its own. It is of distinct value in certain conditions. Furthermore, the patients like it, which is probably one reason for the success of cults specializing in certain branches of the art. While it means special equipment, and possibly a short postgraduate course in methods, it would undoubtedly pay good dividends for the time and effort expended.

CIVILIZATION AND DISEASE

Recent reports from the Eye Sight Conservation Council conclude, as a result of a two-years' eyesight survey, that a situation justifying alarm exists, and that defects of vision are increasing. Dr. Frederick L. Hoffman declares that insanity is on the increase. Reports are constantly coming to the editorial office telling of increase in cancer, in nervous diseases, in heart affections, in diabetes, and other pathological conditions.

Before a just estimate can be made of these reports, it will be necessary to determine (1) how much of the apparent increase is due to better methods of diagnosis; (2) how much is due to practical elimination of acute epidemic diseases and decrease of mortality from tuberculosis, thus permitting longer average life and allowing more opportunity for the development of chronic and organic disease; (3) how much is actually due to unhealthy concomitants of civilization. Only then will it be possible intelligently to attack the problem of further reduction of the death rate.

ARE WE OVER ORGANIZED?

This is the age of organization. We seem just to have discovered the power in coöperation, and, like children with a new toy, are promptly proceeding to wear it out by organizing for this, that, and the other thing, so that of organizations there seems to be no end. It would seem to us a great deal better to strengthen the old organizations and not to add new ones until the possibilities of the old are completely exhausted.

SOCIETY OF HOSPITAL DENTAL INTERNS

On Saturday, August 22, 1925, at 1 P. M., the charter members of the Society of Dental Interns, Bellevue Hospital, New York City, met, and the Society was definitely organized. At this meeting, constitutional and administrative by-laws were adopted, and officers elected.

The object of the Society, as incorporated in the by-laws, is as follows: (1) To aid in the advancement of dental and oral surgery; to encourage lectures, clinics, demonstrations, discussions, and to aid the members in the details of their specialty; to bring to its members a realization of the responsibilities devolving upon them as dental practitioners; to establish a feeling of good fellowship among its members, and to promote among them a desire for mutual improvement. (2) Membership in the Society is open only to those who have completed one year of internship at Bellevue Hospital or visiting dental surgeons whose appointments have been sanctioned by the trustees of said hospital.

As many hospitals annually appoint dental interns, it would seem that the organization of such societies, where possible, would be fraught with much good, and should be encouraged.

TELEPHONE LISTINGS

The A. M. A. House of Delegates adopted a resolution at the 1925 meeting, providing that telephone companies be asked to establish the heading "Physicians and Surgeons, M.D." for classified lists in telephone directories. This is an excellent suggestion, and might also be applied to the regular alphabetical listing.

REST VS. EXERCISE

Bradley College (Peoria, Ill.) has adopted a rule that students unable to participate in "gym" classes shall be sent to bed instead, because "physicians say that relaxation in bed is just as beneficial to the delicate as exercise is to the healthy." This is a good suggestion, for we wonder how many times doctors have prescribed exercise and play when the patient needed rest above all things. Too much exercise, according to Weir Mitchell, is worse for a mental worker than none at all.

A NEW CURE (?) FOR INFLUENZA

According to an industrial report, no employee of the cinnamon warehouse connected with the docks of London, England, ever has had influenza. If a sta-

tistical study were made, it might be determined that there are other diseases none of these employees have had!

The Toll of the Auto

While the automobile exacts a heavy toll of life and limb in all countries of the world, America easily occupies the first position in this respect. It is said that 22,000 deaths and 675,000 serious accidents in this country were one result of automobile driving during 1924, fifteen per cent of the casualties being children under sixteen years of age. There is no danger of preventive medicine reducing the surgeon's income, so long as we have the automobile with us.

Filtration of Radium and X-Rays in Treatment of Cancer

By filtering out 90% of the caustic beta rays emanating from radium and the high-voltage x-ray tube, and using principally the healing and stimulating gamma rays, radiation treatment of cancer has been greatly improved, especially when it involves the tongue, lips, nose, ears, or other parts of the head, according to an announcement by physicians of the Memorial Hospital, New York. The beta rays are electrons, or negative charges of electricity, traveling away from the radium at approximately 186,000 miles an hour. The gamma waves are similar to the Hertzian or radio waves, except that they have about 10,000 times the frequency of the latter. This work is regarded as a most important advance in the treatment of cancer.

The Doctor and Public Service

Physicians have always played a leading rôle in the various activities established for the public welfare, and in one instance this is fittingly commemorated by the fund left by George S. Pepper as a memorial to Dr. William Pepper, founder and first president of the Free Public Library of Philadelphia, which now, after 36 years, amounts to about $244,000. Another important donation to this cause was made by Dr. Isaac Norris, of Bryn Mawr, a former trustee, who some years ago presented to the Library all the medical works in his private collection of some twenty thousand volumes, and subsequently added all the works he had on chemistry, physics, geology, metaphysics, and political economy, stipulating in this later gift that the books should not be transferred to the keeping of the Free Library until the new building on the Parkway should be completed.

A Splendid Record

Dr. H. C. McKinley, of Meyersdale, has recently been elected secretary of the Somerset County Medical Society for the 37th consecutive year. Although advanced in age, and not in the best of health, Dr. McKinley seldom fails to be present, and was one of two to appear at a meeting last winter, driving fourteen miles through a storm so that he might not miss the fellowship of his brother physicians. Dr. McKinley's faithfulness should be an inspiration to all of us.

New Phonograph Record Diagnoses Heart Diseases

Demonstration of a device for the phonographic recording of heart sounds, which is expected eventually to save thousands of lives annually by making possible improved methods of diagnosing heart diseases, recently was given. Engineers of the Bell Telephone Laboratories, Inc., and the Columbia Phonograph Company perfected the invention, with the assistance of Dr. J. C. Gamble, School of Medicine, University of Pennsylvania, Dr. Richard C. Cabot, professor of physiology, Harvard University, and Dr. H. B. Williams, professor of physiology, College of Physicians and Surgeons, New York. By combining the electrical stethoscope, a product of the Bell Telephone Laboratories, with the recording experience of the phonograph experts, it has been possible to make records eliminating the sound of the heavy beat of the heart which masks the murmur. It is also possible to record sounds which ordinarily are so faint that they escape the human ear. This is done by amplification of the sound. The significance of the new invention is that it will enable the average physician to detect heart diseases and give the proper treatment at a much earlier stage than is now generally done.

Community Physician

Sharon, Kansas, is experimenting with the plan of hiring a doctor by the year. The community of one hundred and sixty members have agreed to pay Dr. E. S. Haworth twenty dollars a year, each, in two semi-annual installments, for medical services. In return for these fees, they receive medical service and attention without further charge except for calls made between ten p. m. and five a. m., for which one half of the customary fee for night service is charged. Also, people living beyond the six-mile limit pay mileage. Cases of major surgery or hospitalization cases are not included.

Sharon is a town of about three hundred and fifty inhabitants, and Dr. Haworth is an acceptable physician, and finds it impossible to continue in the community without some arrangement of this kind, as is so often the case with country physicians.

Similar arrangements in small communities will probably be the solution of the country-physician problem. —*Journal Iowa State Medical Society.*

Pay for Professional Services

The physicians of Washington, Missouri, recently announced through a circular letter and the newspapers that they would expect all persons who are able to do so to pay for professional services. The letter concluded as follows: "It is not our intention or desire to offend any one, nor do we expect those who pay to take offense. Those who can pay and will not, we do not want; which will give us more time to devote our energies to those patients desiring our services who meet their obligations." The following is also included in the letter: "Patients who are unable to pay—real charity patients who seek our services—will receive as careful attention as we are able to give." The latter shows the ever willingness of the physician to do his part in serving humanity.

PUBLIC HEALTH

What is Public Health?—The answer will depend upon the perspective of the person replying. To the pink uplifter, the public-health worker is a suave individual who addresses mothers' clubs; to the taxpayer, public-health workers are garbage gentlemen who neglect their duties; to certain of the medical profession, the public-health department is an organization enlisted to fight epidemics, equipped with peculiar and vague police powers—and nothing else; to certain others of the medical profession the public-health movement is the advance guard of State Medicine.....None of these answers is satisfactory,

and yet all of them are more or less natural reactions.—HARRY S. MUSTARD, M.D., Tennessee.

United States Leads the World.—The *Health Bulletin of the League of Nations* contains some rather startling information. It presents statistics which credit the United States in 1924 with a greater number of cases of smallpox than any other country in the world. The total for the United States was 55,538; for British India 46,374; for European Russia 24,076. One sixth of the cases in the United States occurred in California, where there were 9,425 cases.

We can find a lesson showing the virtue of vaccination from these statistics in California with more than 9,000 cases of smallpox, or a case rate of 2.41 per thousand population. There were no cases in the student body of the University of California, and there have been none since 1907, when the regents adopted the rule that all entrants must possess satisfactory evidence of immunity to smallpox before they could be admitted. With this record, contrast the situation in Utah, where school and college health authorities are prohibited from excluding unvaccinated pupils. The University of Utah had a serious smallpox epidemic in 1922.—"Nuf sed!"

Pneumonia.—Pneumonia is the most fatal of all acute communicable diseases in the United States; it kills annually almost 150,000 of our citizens. The mortality from pneumonia is 50% greater in the urban than in the rural districts.

There are many factors in the epidemiology of pneumonia that are not known, and the bacteriology is not satisfactorily worked out, but enough is known to prove that pneumonia is a communicable condition. Pneumonia, or more properly pulmonitis, should not be considered as an individual disease in the same sense as typhoid fever or diphtheria, but as a group of closely related, acute, communicable, constitutional diseases, all having as a local manifestation an acute inflammatory process of the lungs.—C. J. VAUX, M.D.

Malaria the Universal Enemy.—In every war in the Near East, from the remotest historical times until today, deaths from malaria have far exceeded those from steel and cannon. Whole armies have been defeated and wiped out by the deadly plasmodium. Trenches and barbed wire are no defense against the invading anopheles mosquito, carrier of the microscopic parasites which enter the blood stream and destroy the hemoglobin..... Malaria was an important ally of the Turkish Nationalists in defeating the Greek army in Asia Minor. The Turks were fighting on their native soil, and were more resistant to the ravages of the malignant malaria epidemic than were the invading Greeks.

The Germano-Bulgarian and Allied Armies fighting in Macedonia during the Great War lost twenty men from malaria to one killed in action. Most of these soldiers came from countries where malaria was practically nonexistent, and when exposed to the disease, they contracted it in a most violent epidemic and malignant form.....Formerly, it was thought that quinin was a specific poison to the malarial parasite, and cured the disease by killing the parasite. Were this a complete explanation, it would follow that big doses would be more effective than small ones: but this is not the case. There is now almost overwhelming evidence that quinin, after absorption by the human organism, is somehow modified by the body cells and thereby changed into a substance which is fatal to the malaria parasite. Thus, man himself is somewhat responsible for his cure, and any factor which reduces his power of self-help must reduce his hope of cure. What those factors are we can only speculate, but they probably include deficient nutrition, exhaustion, strain, repeated infection, and perhaps overdosing with quinin.

Wayside Eating Establishments.—Deplorable conditions are reported in many of the thousands of wayside eating establishments situated principally along the main lines of automobile traffic. Since the State Department of Health is not in a position to inspect and supervise these places, the burden of necessity falls upon local health officers. While, under the law, town and village boards of health may probably not issue licenses, such boards may adopt reasonable rules and regulations regarding them and enforce the same. In the course of inspection, the following points should be noted: (1) That the drinking water supplied is pure and not subject to contamination. (2) That the milk is of good sanitary quality, kept cool, and protected from contamination. (3) That meats, including "hot dogs," are kept in ice boxes. (4) That food is handled and served in a sanitary manner. (5) That rest rooms and latrines are maintained in a decent and sanitary condition, and screened from flies. It may perhaps be advisable for health boards to have printed a small placard to be posted in a conspicuous place, stating that the establishment has been inspected and approved by the health officer.—New York State Board of Health. August, 1925.

Supervision and Sanitation of Swimming Pools.—The Indiana State Board of Health recently has adopted rules and regulations for the supervision and sanitation of public swimming pools:

1. All pools must be registered with the State Board of Health. Blanks for this purpose will be furnished upon request.

2. All pools must be registered with the local health officer, and subject directly to his jurisdiction in maintaining sanitary conditions.

3. All bathing places shall be open for inspection by properly authorized health officials at all times when the place is in operation.

4. Health officers shall have the power to order reasonable changes relating to improving sanitary conditions of the pool and its surroundings, and if deemed necessary, to close the pool until the conditions are sanitary and safe.

5. The bacterial quality of the water must meet the approval of the State Board of Health Laboratory. Frequent tests are advised, and if possible a local laboratory should make daily examinations. (In the case of school swimming pools this should always be possible.)

The total colonies on standard agar media incubated for twenty-four hours at 37.5° C. must not exceed 1,000 per cubic centimeter. B. coli must not be confirmed in more than half of the cubic-centimeter portions of water.

6. Disinfection is necessary in almost every case to meet the bacteriological standard. Any method of disinfection which keeps the water in a sufficiently pure state bacteriologically is satisfactory. The disinfectants commonly employed are chlorine gas, chlorid of lime, sodium hypochlorite, ozone, and ultraviolet ray.

7. Recirculation with filtration is strongly advised. A circulation should be rapid enough to insure a satisfactory water. This depends, of course, on the filter itself, size of pool, and number of bathers. If the fill-and-empty method is used, the pool should be emptied and cleaned thoroughly at least once a week. This type of pool should not allow over one bather per six hundred gallons of water.

8. In case chlorine gas is used or some compound containing chlorine, the amount of available or excess chlorine shall not be less than .1ppm or more than .5ppm. The orthotolidin test should be used to determine this amount.

9. Whenever alum is used in the purification process, the water must always show an alkaline reaction with methyl orange.

10. The water should be sufficiently clear so that a black disk placed in the deepest part may be seen from both sides of the pool when the water is quiet.

11. All persons who are known to be afflicted with infectious disease shall be excluded from the pool. The person in charge should be on the watch for persons with colds, coughs, skin eruptions, infected eyes, etc. These persons are a real menace to others.

12. No common combs or brushes shall be used.

13. Every bather must take a shower bath before entering the pool. Every shower bath must be preceded with soap. Sufficient number of showers should be had so as not to occasion a long wait at any time.

14. Where sewers are not available, sanitary privies built in accordance with plans approved by the State Board of Health shall be constructed.

15. Where drinking fountains are provided, they shall be of a type approved by the State Board of Health. If wells are used, the water should be analyzed at intervals and used only if approved by the State Laboratory.

16. In case bathing suits are distributed by the pool management they must be washed well and dried thoroughly after each use. Towels shall be treated similarly. This is most important.—*Journal of the Indiana State Medical Association,* July, 1925.

HOSPITAL ACTIVITIES

Hospital Interns and the Philadelphia Hospital Association.—This association last year brought about the adoption, by about twenty leading hospitals in that city, of a new plan for the examination and appointment of interns. The plan had for its objective the elimination of intense competition in securing interns which has existed among hospitals in Philadelphia and elsewhere for some time. It also aimed to make the system of choosing interns a more satisfactory and fair one, from the candidate's standpoint.

This scheme consisted, essentially, in delaying the date for the examination of interns until the end of the first semester, which last year was about February 1; and also the mutual adaptation of the hospital's wish and the representative intern's choice, in so far as the individual hospital was concerned. The Board of Medical Education and Licensure of Pennsylvania approved of this scheme, and in its booklet made the delay in holding examinations more or less obligatory upon the hospitals which it has approved as suitable for educating young physicians.

This association is making an effort to bring about the same agreement among Philadelphia hospitals for the year 1925-6. The scheme has much to recommend it, and it is hoped that at least the idea of delaying the examination of interns until later in the year will be adopted by some of the hospitals outside the city of Philadelphia.

Physical Examination of Hospital Employees.—It is a curious fact that many hospitals neglect the physical examination of their employees. Today almost every industrial corporation lays great stress upon the preliminary physical examination as to the fitness of its workers, before they are allowed to go to work. From a public-health standpoint, it would appear that hospitals should lead in the campaign for enforcing a physical examination for infectious diseases, particularly among its food handlers, as well as those who are brought into intimate contact with the patient.

A large hospital in Philadelphia has adopted a system whereby persons who are employed in dining rooms and kitchens are examined in the hospital's outpatient department, and receive a food handler's certificate, certifying that they are free from infectious diseases, before they are allowed to go to work.

Modern Hospital states that the superintendent of a 450-bed hospital has recently written that journal that he has conducted a survey of his employees. It was found by him that at least fifty per cent of these were employed from the wards. In connection with this survey, he also tabulated the amount of sick leave which these employees had had and the amount of medical and surgical assistance that had been given them by the hospital. He found, to his amazement, that he had a number of syphilitics, diabetics, and tuberculous on his pay-roll; also, that a number employed in heavy work were suffering from hernias, hemorrhoids, and similar conditions—remediable defects, but not reported because of fear of operation.

Special Feeding of the Sick.—Miss Edna M. Prentice, San Francisco Hospital, California, has recently stated: "The special feeding of the sick is too often considered the problem of the dietitian alone. This is a mistake, for unless there is a feeling of keen interest and responsibility on the part of the medical staff as well, no system of special diet can successfully be carried out. To the doctor's province, of course, belongs the diagnosis, and the diagnosis determines the prescription. The prescription of a diet, however, should not be an arbitrary decision of the doctor that his patient shall have so many grams of protein, or so many calories per day, or a stipulated quantity of this or that kind of food. Coöperation with the dietitian should begin here, for her training in scientific food work makes her better qualified to decide as to these matters than the average doctor. Diet prescription, then, must be the result of the combined thought and interest of the doctor and the dietitian."

Handling of Infectious Diseases.—Hospital administrators and hospital staffs are returning to the gospel of "soap, water, and sunshine" in the handling of infectious diseases. Many hospitals, particularly, those in the large cities, have discarded the old system of burning sulphur and scattering formaldehyd around in rooms and wards where contagious diseases have been treated. Scrupulous cleansing with soap and water and the entrance of sunshine appears to be all that is necessary to prevent the spread of contagious diseases.

Discovery of the cause of scarlet fever is an important medical achievement of this century, and lends strength to the idea that contagions are spread by direct contact, and not through air-borne means of transmission.

Trained Hospital Executives.—The need for trained and efficient hospital executives has brought about the establishment at the Marquette University, Milwaukee, Wisconsin, of a College of Hospital Administration.

Hospital executives are beginning to realize that it is a bad business procedure to place an untrained man or woman at the head of an institution costing several million dollars. No business concern in this or any

other country would turn over its manufacturing plant to the tyro. To this end, a central committee on training hospital executives was suggested, to coöperate with universities, medical schools, and hospitals, undertaking courses approved by the association.

The course in hospital administration at the Marquette University graduated its first class in 1925. Honorary degrees were conferred upon Dr. S. S. Goldwater, of New York, and Dr. Malcolm T. MacEachern, Director of Hospital Activities, American College of Surgeons, Chicago.

Departments for Prevention of Disease.—Dr. Howard C. Carpenter, Director, Department of Prevention of Disease, Children's Hospital, Philadelphia, has made many interesting suggestions as to the value of such a department in a general hospital. He indicated that special hospitals also will derive just as much benefit and give just as valuable service with a department for prevention of disease.

The work of such a department would include: Improvement of the general sanitary conditions around the hospital; control of communicable diseases through education, coöperation with health authorities, etc.; immunization, teaching of personal and general hygiene through a community health center; health examinations for adults, children, and infants; distribution of health literature; promotion of health education, through a medical and health reference library, lectures, "movies," and the employment of a "health teacher" for group instruction.

American Protestant Hospital Association.—At the meeting, held at Louisville, October 17, 18, 19, many important questions were discussed. Among the subjects presented, was that of standards of adequacy in nursing service. The question as to the number of nurses in proportion to the average occupancy of a hospital, brought out ratios of one to four or five patients, and one to two patients.

It also was the consensus of opinion at this meeting that since the staff holds the superintendent responsible for carrying out of certain phases of the medical service of the hospital, the superintendent should be kept informed by the staff of its plans and activities; and as the superintendent is the executive officer of the entire hospital, he should be present at the business meetings of the staff, in order to get the ideas of the staff. Since the Court holds the entire hospital responsible for service to a patient, this is all the more reason why a superintendent should keep in close contact with staff affairs.

Admission officer.—Because it realizes that the desk of the admission officer is one of the three important contacts which a hospital has with the public (the others being the telephone and the information desk), Johns Hopkins Hospital, Baltimore, Md., has appointed a trained social worker in that position. The principal qualifications for an admission officer are executive ability and understanding of people, and of economic and social conditions; tact, some medical knowledge, and the ability to know when to be insistent and when to yield. The admission office is a business office, and the person in charge is a part of the administration staff.—*Better Times.*

New Buildings.—The Polyclinic Hospital of the Graduate School of the University of Pennsylvania has cleared ground at the corner of Eighteenth and Lombard Sts. for the erection of an addition to its plant. It is said that the new buildings will cost in the neighborhood of a million dollars.

Future Developments at Johns Hopkins University.—Extensive plans have been made, covering the development of this institution for the next decade. It has been decided that an expenditure of at least thirteen million dollars will be necessary in improving the hospital. The comprehensive scheme calls for an additional endowment to the hospital, a school for nurses, and the building and endowment of medical and surgical clinics, as well as an institute for the study and treatment of nervous diseases.

Hospital Additions.—The Mercer Hospital, Trenton, New Jersey, has awarded a contract for a $160,000 maternity department; and the Christian Sanatorium, Paterson, New Jersey, has decided to campaign for $75,000 to erect a new nurses' home, and an additional hospital building.

Community Chest.—Within the past year, the city of Los Angeles, California, has established a community chest, with a fund of $2,500,000 for the support of worthy charities. Stock has been taken in the project by all charitable activities of the city.

Convalescent Homes.—Dr. E. P. Boas, Medical Director, Montefiore Hospital, New York, who read a paper before the American Hospital Association at Louisville, stated, in discussing the need for convalescent homes for chronic patients, that "the general hospital does not provide adequately for these chronic individuals, nor does the dispensary, although one half of all dispensary patients belong in this category. One chronic patient may occupy for three months a hospital bed that could in the same period have served eight or nine acute medical or surgical cases, which are the legitimate type of patients for the general hospital." Dr. Boas, therefore, feels that it is natural for hospitals often to refuse admission to chronic patients, but he is not in sympathy with the lack of interest shown toward such cases as are admitted, and deplores the attitude of hopelessness and impatience often shown toward these sufferers. The attitude of hospitals and the community in general toward the chronic patient has arisen largely through ignorance, for it is not realized that from fifty to seventy-five per cent of those suffering from chronic diseases need care such as can be provided only in a general hospital.

INDUSTRIAL MEDICINE

The American Public Health Association.—At the annual meeting held in St. Louis in October, the Industrial Hygiene Section elected Dr. Thomas R. Crowder, Chief Surgeon of the Pullman Company, chairman for the coming year, and Dr. Volney P. Cheney, Chief Surgeon of Armour and Company, vice-chairman. Dr. Emery Hayhurst, Professor of Hygiene at Ohio State University, continues as secretary. Four new section councilors were elected: Dr. Leonard Greenburg, U. S. P. H. Service; Dr. Rector, editor of the *Nation's Health;* Dr. Francis D. Patterson, formerly chief of the Division of Hygiene and Engineering, Pennsylvania Department of Labor and Industry; and Dr. H. F. Smyth, of the University of Pennsylvania.

The growing importance of industrial hygiene in public-health work is shown in the election of Dr. C. E. A. Winslow, of Yale, one of the country's most active industrial-hygiene workers, as president of the American Public Health Association, and the election of two members of the Industrial Hygiene Section, Dr. A. J. Lanza of the National Health Council, and Dr. Smyth to the governing council of the Association.

The Committee on Anthrax of the Industrial Hygiene Section presented a tabulation of anthrax statistics for the last six and two thirds years, showing that all forms of anthrax infection in the United States, with the exception of that due to hair and brushes, is apparently on the increase. This is especially noticeable with anthrax due to animal contact and anthrax among animals.

Dr. Emery Hayhurst presented a paper emphasizing the growing menace of carbon monoxid in industry and domestic life from the use of gas heating appliances with no provision for exhaust ventilation and removal of the incompletely oxidized carbon, and the use of leaky hose. Attention was called to the increasing number of deaths from carbon-monoxid poisoning from running automobile engines in closed, unventilated garages.

Some Problems of the Industrial Surgeon.—The industrial surgeon has his peculiar problems. They are not primarily those of the general surgeon or of the orthopedist. When we discuss the problems of the industrial surgeon we should confine ourselves to those which are practically unknown to the general practitioner or surgeon but which are common to all physicians who work for industrial corporations.

Industrial surgery is fast becoming a specialty. The present-day industrial physician and surgeon is chosen because of his ability to handle successfully those cases which are peculiar to industry.

Consequently, we find that the best type of industrial surgeon is one who is not purely an orthopedist nor a typical general surgeon nor yet a hydro or electrotherapeutist, but one who must have a general knowledge of all these branches. But this is not all: the industrial surgeon and physician would be absolutely at sea if, although possessing scientific skill, he failed to understand the peculiar psychology exhibited by a goodly percentage of his patients.

It is quite obvious, therefore, that the first problem confronting the young physician entering industrial medicine is that he is not dealing with a simple relationship of patient and physician, but that, however skillfully he may be handling his individual patient, he is, at the same time, in a percentage of his patients, conscious of an attitude of distrust or impatience never or seldom seen in the private practice of medicine. This attitude is not in most cases due to the patient's fear of the results of treatment, but rather to a desire of the patient to impress his physician with the gravity of his injury and thus to make his compensation more extensive or his settlement more liberal. To the industrial surgeon of much experience, this class of patients is also a problem.

Another problem which early comes to the industrial surgeon is one which bothered the human race in ancient days. The Good Book tells us that we cannot serve two masters, and yet what industrial surgeon does not attempt this impossible feat, and, strange to say, usually meet with extraordinary success! Young physicians, unfortunately, are seen who attack this problem, or rather side-step it, and attempt to serve only one master to the contempt of the other. Whichever master he has chosen has never been able to save him from bitter experience and, finally, from absolute failure. There is only one solution to this problem, and that is absolute impartiality and strict fairness to both employer and employee. No other system has ever succeeded or will succeed.

Perhaps the most important problem confronting the industrial surgeon is that of having to pass all his work in review for his employer, his patient, and possibly the court. I care not how skillfully the surgeon has handled his case, if permanent disability follows, some one of these parties will be hard to satisfy.

The only solution of this problem is the most painstaking, conscientious work from start to finish, never sparing frequent examinations, x-rays, massage, electricity, bakings, and any other procedure which might contribute to a slight lessening of disability. Disabilities we must have; let us make them as slight as possible.

The other problem, referring particularly to relations with employees, is one calling for the greatest generosity and tolerance. We are often prone to forget that the physician is a highly educated man, and a large percentage of his patients are quite ignorant. In dealing with these people, we have to consider them often as children looking for sympathy, advice, and sometimes medicine which they do not require. We must never forget, in all the confusion of compensation laws and multiple insurance policies, that all parties are human and frail, and that so long as our cases are considered medical, we are the physician and the patient our case. But when the task is accomplished to the best of our ability, we should stand on our rights for fair play to the physician, and never allow malicious complaints to pass uncensured or unpunished. The industrial physician who stands for absolute fairness, does painstaking work, and is interested in his fellow men, need not fear his problems.

The industrial surgeon has always been an overworked individual. Unlike the man in private practice, he cannot refuse work when tired or indisposed. When his year's work is completed and he is given a short vacation, he is in no physical or mental condition to do postgraduate work. He must rest and play.

The only solution of this problem, which may be considered as one referring particularly to the employer and physician, is for each employer to make special provision for his physicians to keep abreast of the times, and insist that postgraduate work be taken regularly, and, of course, it is just as essential for the physician to adopt the same attitude.—GEORGE A. BRIDGE, M.D., in *Southwestern Medicine* for August, 1925.

The Prevention of Industrial Lead Poisoning.—(1) The occurrence of lead poisoning can be markedly decreased by preventive measures; (2) These measures concern plant conditions and the health of workmen; (3) Frequent examinations of the blood of all exposed workers should be made to discover lead absorption; (4) The basophilic aggregation test, besides being of diagnostic value, has proved of great help in estimating the degree to which absorption has taken place.—PHILIP F. DONOHUE, St. Paul, Minn.

Increasing Life-span of the American and Canadian Industrial Population.—Among wageworkers and their families in the United States and Canada, the year 1924, in respect to longevity, was the best one on record in public-health history. The expectation of life at birth in industrial families was 55.62 years—a more favorable figure even than the remarkable record of the year 1921, and an increase of nearly nine years since 1911-12. The expected after-life span for the wage-working population, in 1924, was approximately the same as that for the general population, which includes the better-circumstanced classes of the nation, only ten years ago.

The increase for insured wage earners between 1911-12 and 1924 was about nine years. The figure for 1924 in the general population of the United States registration area is not yet available, but a comparison with

that for 1923 shows a gain of only 4.3 years since 1911-12.

Since 1911-12 the gain among the industrial policyholders has been 19 per cent in the expected after-lifetime! Who, fourteen years ago, could have predicted an extension of nearly one fifth in the longevity of the wageworking population by the end of 1924? Intensive and continuous public-health work and the rise in living standards for this class of the population, however, have brought about a more remarkable improvement in health conditions than has occurred in any similar period in human history.

At every age division of life, there has been a gain in the expected after-life span, the more pronounced advances being made at the earlier ages. One of the noteworthy features of the figures is the prolongation of the lives of colored people. At age 10, there was an increase of 4.4 years in the expectation for colored males and of 5.3 years for colored females. These facts are strongly indicative of a fundamental, favorable change in health conditions for the American negro; and, considering the conditions of life under which this group of the population has lived for many decades, it is a truly remarkable showing. The figures point clearly to the possibility for further improvement in the condition of the negro in America, a prospect which carries with it many favorable implications for the white race also.

Altogether, these facts and figures show real progress toward a higher civilization in which the interests of the wage earners have been advanced at a rate without precedent in modern times—*Life-insurance Statistical Bulletin,* September, 1925.

Hard Work Kills.—Dr. Raymond Pearl stated in his *Biology of Death* that "There is some direct experimental evidence that the duration of life of an animal stands in inverse relation to the total amount of its metabolic activity, or, put in other words, to the work, in the sense of theoretical mechanics, that it, as a machine, does during its life." In the work on Studies in Human Biology, by Pearl and Hawley, in Chapter XI, some valuable statistical proof is added. Both in indoor and in outdoor occupations it appears that, up to the age of 45, the severity of labor has little or no effect on the mortality rate. After this age period, the more hard-working occupations show a definitely higher death rate. This happens, independent of social status. It seems that hard work after middle life is dangerous. Still, people should not be encouraged into the opposite danger, quite as real, which is to do little work in proportion to their food intake.—*World's Health,* April, 1925.

National Safety Council Starts Series on Industrial Poisonings.—No. 1 of a series of *Safe Practice* sheets presenting summaries of present practice in the prevention of industrial poisoning has just appeared, having been prepared by the Industrial Poisons Committee of the Chemical Section of the Council. This deals with carbon monoxid, and the plan evidently is to confine the whole statement in each instance to one sheet. The present one proceeds as follows: DANGEROUS FORMS OF EXPOSURE, gases only. MODE OF ENTRY INTO BODY, respiration only. MINIMUM TOXIC QUANTITIES, 0.2 to 0.5 per cent in air breathed for a few minutes. ACTION, noncumulative. SUSCEPTIBILITY, nonvariable. ACUTE SYMPTOMS (after brief severe exposure), weakness in legs, dizziness, throbbing headache, rapid pulse, rapid and then slow breathing, loss of consciousness, death if exposure continues. CHRONIC SYMPTOMS (after prolonged mild exposure) (rare), pallor, headaches, general weakness. PROOF OF POISONING, blood tests. MEDICAL TREATMENT, prompt inhalation of oxygen containing 5 per cent carbon dioxid or, if breathing has stopped, artificial respiration by the prone pressure method; also, never force a gassed person to walk, but place him in fresh air, lying down, and keep him warm. PREVENTIVE METHODS consist of thorough ventilation of all processes that generate the gas, air tests for CO, use of life lines, vapor-proof lamps, and special gas mask, enforcement of two-man rule for work around dangerous places, in garages keeping doors open or piping out exhaust gases while running engines, and in homes ventilating all gas-burning appliances and watching all connections. Copies of these *Safe Practice* sheets are obtainable from the National Safety Council, 168 North Michigan Avenue, Chicago. All concerns having any exposure whatever are urged to distribute copies to their foremen, plant physicians, etc.—*National Safety News,* July, 1925.

Ohio Occupational Disease Decisions.—(1) The wife of a coal miner will be paid for nursing services when she has to cease her employment elsewhere in order to take care of him in preference to hiring a nurse, even when recommended by the attending physicians. (2) Tuberculosis, contracted by contact with patients, will be considered an injury when it is shown conclusively that a physician employed as a hospital intern became subjected to the disease while so employed. (3) An undertaker's assistant, not vaccinated, who handles a corpse, death having been due to smallpox, even in another state, contracting the disease a short time later and dying from it, is presumed to have sustained an injury during the course of and arising out of his employment, and the death award will be granted. —*Industrial Relations,* May, 1925.

An Analysis of Forty-eight Cases of Pelvic Fracture.—At a joint meeting of the Medical and Surgical Association of the Southwest and the Pacific Coast Roentgen Ray Society, held at Phoenix, December 1-3, 1921, Dr. John E. Bacon presented a paper on "Fractures of the Pelvis; Comments on Complications, Mortality, and Ultimate Results," reporting at that time a total of thirty-two cases of pelvic fractures.

It is the author's purpose to present an analysis of forty-eight cases with further comments on complications, treatment, mortality, and final results.

ETIOLOGY: Without exception, the fractures in the forty-eight cases here reported were the result of direct violence in some form.

DIAGNOSIS: Since the advent of the Potter-Bucky diaphragm, Coolidge tubes, improved intensifying screens, and high-voltage transformers, there is hardly an excuse for overlooking a fracture of the pelvis, and in all pelvic injuries, an x-ray investigation is absolutely imperative.* For the diagnosis of complicating injuries of the viscera and soft parts, we must rely upon a very careful physical examination. These latter can usually be determined very readily if a systematic search is made.

COMPLICATIONS: The complications encountered in this series were as follows: (1) Sacro-iliac disturbance occurred in seven of the cases, or in 14.58% of the series; (2) rupture of the urethra in seven cases, or 14.58%; (3) rupture of the bladder in three cases, or 6.25%; (4) rectal tear in two cases, or 4.17%; (5) sciatic neuritis in one case, or 2.08%. Of the complications, the sacro-iliac lesions were responsible for the longest period of disability. The average in five cases was 253 days; one patient suffered a permanent disability, complaining of a weak back two years from

the time of injury. Rupture of the urethra did not prove to be a very troublesome complication, not materially interfering with recovery nor unduly prolonging the period of disability. The average loss of time from work in six cases was 128 days. In three cases of ruptured bladder, the patients died within one to five hours from the time they were admitted to the hospital. The fatal termination was the result of concomitant injuries, hemorrhage, and shock. The two cases of rectal tear made complete recoveries with perfect restoration of function of anal sphincters. The prolonged period of disability in these cases was due to the coincident injuries and other complications. The case complicated by sciatic neuritis proved quite troublesome, but eventuated in recovery after a period of six months.

CONCOMITANT INJURIES: In nine cases, the coincident injuries constituted the major lesions, and were responsible for the prolonged disability in the five nonfatal cases.

MORTALITY: The mortality was 12.5%, death occurring in six cases.

ULTIMATE RESULTS: Excepting the fatalities, in all but two cases there was perfect restoration of function. The average total disability period in thirty-eight cases of this series was one hundred and forty days.

CONCLUSIONS: (1) Pelvic fractures are not infrequent in mine and automobile accidents, and a careful x-ray examination should be made in all injuries of the pelvis. (2) The simpler fractures of the pelvis are usually not serious injuries, and should not require a disability period in excess of ten or twelve weeks. (3) Complicated fractures of the pelvis are always serious, and require proper treatment of the complicating lesions. The period of disability in these cases is dependent upon the nature and extent of complications, and is usually from four to six months. (4) In industrial cases where compensation is expected, the period of disability is always increased.—WM. B. WATTS, M.D., in *Southwestern Medicine.*

The Relation of Health Officers to Industrial Hygiene.—Cyril Ainsworth, Bureau of Industrial Standards, Department of Labor and Industry, Pennsylvania, writes as follows:

A study of the accident record has made evident the deduction that we cannot hope to make progress in reducing the number of accidents occurring yearly unless greater emphasis is placed on the study of the health conditions of the workers at the time of securing employment and also during the progress of the daily work. This realization has led industrial medicine to develop very rapidly.

The total number of workers employed in the smaller industries is far greater than those employed in the larger industries, and up to the present time such workers have had to depend upon the family physician, the public-health officers, the public-health nurses and the social workers and investigators of relief, educational, or beneficial organizations. It is to these persons, therefore, that the Department of Labor and Industry must look for help, and to whom it offers all the help and coöperation that it can possibly give.

The Section of Hygiene and Sanitation in the Bureau of Industrial Standards, headed by Dr. Elizabeth B. Bricker, must first be acquainted with the conditions to be remedied before it can know what regulations to develop, or how to be of service. We learn of such conditions from our inspectors, from the workers themselves, or from manufacturers wanting help in eliminating conditions which are undesirable. Much good has been accomplished in following up these reports, but it is undoubtedly true that could our source of information be enlarged the results would be more far-reaching.

We know of only one group of people to whom we can turn for such assistance—the local health officials. We earnestly request that they report to us all of the conditions of ill health supposed to be due to occupations which come to their attention. So far as possible such cases will be investigated. In individual cases, if plant conditions are at fault and can be corrected, every effort will be made to rectify them. If we find a number of similar characteristics and surroundings, the group will be studied, and if conditions applicable to the group in general can be improved, regulations calling for such improvement and applicable to the industry or occupation as a whole will be developed. We realize that a condition of ill health may not be due to occupation alone, but to a combination of factors, as home surroundings and cares, manner of spending leisure time, community conditions, ignorance, superstition, etc. Do not hesitate to report to us a case in which you suspect occupation to be only one element of the trouble, and some of the other conditions just mentioned as contributory or even predominating causes. What may seem to be a trifling item to you, when considered in the light of the experience of others in various parts of the State may be just what is needed to make out a case. We are particularly interested in having our attention called to conditions of temperature, humidity, fatigue, illumination, dust and fumes, infections, and poisons.

Safety Measures as a Health Hazard.—Occupation in many of the industries exposes the worker to the hazards of many harmful substances which possess the properties of burning or irritating the skin. As a protective measure, gloves are furnished the worker.

A pair of rubber gloves supplied the worker to protect the hands from the action of acids or corrosive material may constitute a hazard if they are not in perfect condition.

An acid oozing through a minute hole in a rubber glove will be retained and pressed against the skin by the tightness of the glove, resulting in more serious damage to the skin through being unnoticed due to presence of gloves than would a quick dip or accidental splash in the case of unprotected skin.

During the inspection of a factory where hydrofluoric acid is used in the process of etching glass, examination of the worker engaged in dipping showed his hands in a condition as expressed by some workers actually to have holes burned in the flesh, due to the acid leaking through unsuspected minute holes in the rubber gloves provided.

Many other instances could be cited of burned and inflamed hands, all due to lack of properly examining the gloves before using.

No operator would start a power press without first seeing to it that the safeguard was attached and working properly.

No operator should start work without seeing the rubber-glove safeguard is in safe condition and proper to work with.—Dr. C. T. Graham-Rogers, in *Industrial Hygiene Bulletin,* N. Y. State Department of Labor.

NO IDLE HANDS.—"The busy patient has no time for complaint" would seem to be a good slogan.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

COMMITTEE ON REVISION OF CONSTITUTION AND BY-LAWS

The 1925 House of Delegates, in session October 5, approved a motion creating a Committee to Revise the Constitution and By-Laws of the Society and to make a study at the same time of the Model Constitution and By-Laws for State Medical Associations suggested by the American Medical Association.

President Henry appointed the following committee: Dr. William H. Mayer, Pittsburgh; Dr. Howard C. Frontz, Huntingdon; and Secretary Donaldson.

CHANGE OF TIME OF 1926 SESSION

Section 1 of Article 7 of the Constitution fixes the date of the annual session of our Society as the first Tuesday in October, but states further that "The House of Delegates may by a three-fourths vote, which may be taken by mail, change the time or place of the next annual session."

When our Manager of Sessions and Exhibits visited Philadelphia to arrange for the 1926 session, it was discovered that the Bellevue-Stratford Hotel, the usual headquarters of the Society at its Philadelphia meetings, was not available for the first Tuesday in October, 1926; furthermore, that the rental rate offered by any other suitable Philadelphia hotel for the same time was greatly in excess of the rate offered by the Bellevue-Stratford.

After taking counsel with the proper officers and committeemen of the Society, President Shoemaker instructed the Secretary to take a mail vote of the House of Delegates as to the advisability of changing the date for the 1926 session. A letter setting forth the facts, with a ballot attached, was therefore mailed to each member of the 1925 House of Delegates. One hundred seventeen responded, voting as follows: Favorable to change of date, 117; unfavorable to change of date, 0.

The 1926 session will therefore be held in the Bellevue-Stratford Hotel, Philadelphia, October 11-14, 1926.

INFRINGEMENTS OF THE CODE OF ETHICS

Within the past month, the attention of the Secretary has been drawn to three distinct and different violations by members of the Medical Society of the State of Pennsylvania of the Code of Ethics of the American Medical Association.

In one instance, a member issued a circular, setting forth his peculiar virtues in a certain specialty, giving his address and office hours, decrying the professional ability of others who had not had his advantages in training and experience, and soliciting readers of the circular to spread the glad tidings of his achievements. In another instance, a member by letter, over his signature, solicited a rebate from a supply house on a cash expenditure by one of his patients for necessary surgical apparatus prescribed by him. In the third instance, a member was accused of maintaining a contract practice, by which, for a fixed sum paid monthly, he furnishes professional services to the families of his subscribers.

This is obviously not the place to discuss in detail the specific offenses above mentioned, further than to state that the alleged offenders may be guilty of the ethical sins of selfishness, misrepresentation, and degradation of the highest ideals of the medical profession, and to remind

the official representatives of organized medicine that all members of component county medical societies, in uniting with such societies, subscribe to and promise to uphold the Code of Ethics of the American Medical Association, of which all component-society members automatically become members.

Keeping this obligation in mind, with its logical application to the offenses mentioned, the conclusion is outstanding that the offenses complained of have been deliberately committed. It is the duty of the Board of Censors of a county medical society, in such instances, to uphold the Society's laws governing the ethical conduct of its members. The By-Laws of the State Society provide ample means for the member to appeal from the disciplinary decisions of a county medical society under such circumstances. The member thus reprimanded, suspended, or expelled, may apply to the district censors or to the Board of Trustees of the State Society sitting as the Judicial Council.

It is altogether possible that the Code of Ethics is not discussed frequently enough and definitely enough in county-society meetings, and we respectfully suggest to the officers responsible for the programs of component county societies an occasional discussion of the requirements of the Code of Ethics, in order that its fundamental requirements may not become entirely obsolete or withheld from the attention of county-society members.

PERIODIC-HEALTH-EXAMINATION BLANKS

Secretary W. E. Egbert of the Delaware County Medical Society recently mailed to each member of that Society a sample periodic-health-examination blank, issued by the State Society; also a placard prepared by the Committee on Public Relations to be hung in the physician's reception room, referring to the advantages of periodic examinations. Dr. Egbert reports that the results of this method of interesting members in this service have been very encouraging, and that he has noted considerable evidence of livelier interest on the part of the members of his society.

Any member of the State Society sending one dollar to the office of the Secretary or the Editor will receive, by return mail, a pad containing one hundred periodic-health-examination blanks, a fifty-page manual of suggestions in the technic of conducting physical examinations of the apparently healthy, and a placard to be hung in the physician's reception room.

PRESERVE YOUR 1926 RECEIPT

Members should pay their 1926 county-society dues when due—January first. They should receive from the secretary of their county society a receipt for their dues, and should carefully file same for reference throughout the year. On the back of the receipt will be found information regarding the necessary procedure to be followed by a member who is threatened with suit for alleged malpractice. This information will eliminate the delay incidental to seeking advice from officers of the county society, and it emphasizes the fact that by delay a member may forfeit his claim upon the State Society for assistance.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per capita assessment has been received since October 19. Figures in first column indicate county society numbers; second column, State Society numbers.

Oct.	19	Northampton	135	7391	$5.00
		Lycoming	114	7392 (½ yr.)	2.50
		Luzerne	260–266	7393–7399 (½ yr.)	17.50
	27	Bradford	41	7400 (½ yr.)	2.50
Nov.	10	Erie	141-142	7401-7402	10.00
	16	Venango	47	7403	5.00
		Lawrence	59	7404	5.00
		Venango	48	7405	5.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to November 17:

ALLEGHENY: *Removal*—J. Edwin Purdy from Pittsburgh to 201 Witters Bldg., Canton, Ohio. *Resignation*—Adolph Finn, Pittsburgh. *Deaths*—John J. Rectenwald of Pittsburgh (Univ. of Pgh. '95) Nov. 3, aged 52; Abram V. Hicks of Pittsburgh (Univ. of Pgh. '07) Oct. 21, agd 41.

BRADFORD: *New Member*—George E. Richardson, Towanda.

CLEARFIELD: *Removal*—Lawrence A. Zinsmeister from Westover to 2015 Green St., Harrisburg (Dau. Co.)

CLINTON: *Deaths*—Robert B. Watson of Lock Haven (U. of Penna. '63) Oct. 9, aged 87; Thomas E. Roach of Renova (Univ. of Ill. '90) Oct. 29, aged 60.

CHESTER: *Death*—Walter Webb of West Chester (Jeff. Med. Coll. '88) recently, aged 60.

ERIE: *New Members*—Irwin C. Krueger, 715 W. 8th St., James R. Hart, 806 Cranberry St., Erie.

FAYETTE: *Removal*—Don C. Fosselman from Dunbar to Connellsville.

INDIANA: *Removal*—Thomas J. McNelis from Homer City to 203 So. Maple St., Mt. Carmel (Northumberland Co.)

LANCASTER: *Removal*—Andrew J. Hesser from Lancaster to Otisville, N. Y.

LAWRENCE: *Reinstated Member*—Franklin W. Guy, New Castle.

NORTHUMBERLAND: *Death*—John B. Cressinger of Sunbury (Univ. of Penna. '96) Sept. 16, aged 54.

PHILADELPHIA: *Resignation*—Edward P. Davis, Philadelphia. *Removal*—Joseph W. Post from Philadelphia to Wyncote (Mont. Co.) *Death*—J. Rex Hobensack of Philadelphia (Univ. of Penna. '93) recently, aged

55. *New Members*—Mary S. Bailey, 626 De Kalb St., Norristown; Albert E. Bothe, 104 Plymouth Place, Merchantville, N. J.; Walter J. Blackburn, 2112 So. Broad St.; John T. Farrell, Jr., 1204 Spruce St.; Charles M. Glassmire, 637 So. Forty-ninth St.; George I. Israel, 1923 Spruce St.; Roycroft C. Jones, 4435 So. Twentieth St.; James L. McCabe, 5247 Chester Ave.; Lorenzo F. Milliken, Medical Arts Bldg.; Leo B. Reed, 1903 So. Broad St.; Robert S. Rusling, 8024 D St., Fox Chase; Henry S. Ruth, 4816 Pine St.; Carl Schumann, 3221 Spring Garden St.; David S. Seller, 6604 Ogontz Ave.; Isaac Starr, Jr., 505 Cresheim Valley Road, Chestnut Hill; Louis E. Strittmatter, 1233 N. Sixth St.; Carl V. Vischer, 5903 Greene St., Germantown; Marcus I. Weissman, 931 N. E. Boulevard; Anne Young, 822 No. Forty-first St., Philadelphia. *Reinstated Members*—Ruth Alexander, 329 Damon Bldg., Honolulu, Hawaii; W. A. N. Dorland, 25 E. Washington St., Chicago, Ill.; Eugene J. Asnis, Weightman Bldg.; George L. Bayton, 1840 Christian St.; Abraham I. Baron, 317 So. Fifteenth St.; Herman H. Birney, 4016 Chestnut St.; Geoffrey C. H. Burns, Philadelphia Hospital, Thirty-fourth and Pine Sts.; Maxwell Cherner, 1902 No. Twenty-second St.; John M. Connolly, 1948 E. Chelten Ave.; Thomas A. Cope, 6504 Germantown Ave.; Clarence A. Copeland, 5430 Woodland Ave.; Leon O. Davis, 4515 Paul St.; Benjamin F. Diseroad, 901 W. Lehigh Ave.; Marian Francis-Self, 131 So. Thirty-sixth St.; Dwight B. Fuller, 208 No. Thirty-fourth St.; Leo. N. Gartman, 523 Pine St.; Joseph P. Garvey, 3607 Baring St.; Richard F. Gerlach, 1526 No. Fifteenth St.; S. Norman Grahn, 1922 No. Twelfth St.; A. Arthur Jones, 1810 Jefferson St.; Joseph C. Kahan, 1520 No. Seventh St.; William O. Kleinstuber, 636 E. Indiana Ave.; E. Paul Kitchin, 154 W. Tabor Road (Olney); Joseph A. Langbord, 1829 Pine St.; John A. McKenna, 6 Lansdowne Ave. (Lansdowne); Harriett E. MacSorley, 631 Mt. Airy Ave. (Germantown); Jacob L. Manasses, 1414 No. Fifteenth St.; William J. F. Martin, 2022 No. Broad St.; William F. Monaghan, 901 No. Forty-fourth St.; William B. Morford, 1534 So. Broad St.; John J. Owen, 411 Pine St.; B. Alexander Randall, 2009 Spruce St.; Joseph M. Reeves, 1916 Spruce St.; Hyman S. Schenker, 946 No. Franklin St.; George J. Schwartz, 1620 Walnut St.; Frank A. Thompson, 5108 Springfield Ave.; W. R. Watson, 2124 Pine St.; Carl Weiland, Jr., 617 Vine St.; William C. Wood, 2007 Chestnut St.; Harry E. Ungerleider, 1516 So. Fifty-eighth St.; Walter M. L. Ziegler, 1418 No. Seventeenth St.; Hannah M. Hunsicker, 5200 Rising Sun Ave. (Olney); Samuel Friedenberg, 717 Pine St.; James F. Donnelly, Fifteenth and Locust Sts. (Earle Bldg.), Philadelphia; Alice M. Seabrook, 612 Canon Drive, Beverly Hills, Calif.

VENANGO: *Reinstated Member*—Carm Y. Detar, Oil City.

WASHINGTON: *Removal*—Torrance J. Hanlon from Donora to Box 167, Monongahela.

WYOMING: *Death*—George M. Harrison of Meshoppen (Univ. of Mich., '75), Sept. 28, aged 74.

NARCOTIC DECISION BY U. S. SUPREME COURT IS OF GENERAL INTEREST

The United States Supreme Court has held that the Harrison Narcotic Act is a revenue measure, in a recent decision which clarifies several of the abstruse sections and makes it possible for a physician to give moderate doses of narcotics to addicts, when, in his judgment, such drugs are needed.

Parts of the decision (C. O. Linder vs. U. S. A.) of interest to the medical profession follow:

"A physician cannot be prosecuted under the Harrison Narcotic law, which is a pure revenue measure, for delivery to an addict, for self-administration, of four small tablets of morphin or cocain, for relief of conditions incident to the addiction.

"The enactment under consideration levies a tax, upheld by this court, upon every person who imports, manufactures, produces, compounds, sells, deals in, dispenses, or gives away opium or coca leaves or derivatives therefrom, and may regulate medical practice in the states only so far as reasonably appropriate for or merely incidental to its enforcement. It says nothing of addicts, and does not undertake to prescribe methods for their medical treatment. They are diseased and proper subjects for such treatment, and we cannot possibly conclude that a physician acted improperly or unwisely or for other than medical purposes solely because he had dispensed to one of them, in the ordinary course and in good faith, four small tablets of morphin or cocain for relief of conditions incident to addiction.

"What constitutes bona fide medical practice must be determined upon consideration of evidence and attending circumstances. Mere pretense of such practice, of course, cannot legalize forbidden sales, or otherwise nullify valid provisions of the statute, or defeat such regulations as may be fairly appropriate to its enforcement within the proper limitations of a revenue measure.

"The answer thus given (referring to a definition of a physician's prescription in the case of Webb vs. U. S. A.) must not be construed as forbidding every prescription for drugs, irrespective of quantity, when designed temporarily to alleviate an addict's pains, although it may have been issued in good faith and without design to defeat the revenues."

When the Harrison Narcotic Act was passed several years ago, an annual tax of one dollar was levied against every physician prescribing or dispensing narcotics. The funds thus raised were used to defray the cost of enforcement. During the war, this tax was increased from one to three dollars as a means of producing additional revenue. Since that time, the federal financial requirements have diminished. The income tax has been reduced. Many of the other revenue producers have been abolished or slashed. Yet the tax on sickness continues.

Physicians have protested against this "class tax" for several years. It has been shown that more than a half million dollars are raised annually over and above the money needs of the enforcement section. In individual cases, the cost is small. As an aggregate, it is a heavy levy against sickness.

It has been contended for some time that the tax ceased to be a method to raise funds for enforcement and became a revenue measure when the surplus reached a half million annually. The U. S. Supreme Court has not held that it is a revenue measure.

The Sixty-Ninth Congress, in preparing the program for the coming tax revision, should take this tax into consideration, together with the possibilities of permitting physicians, as well as business and financial groups, to deduct expenses, incident to attending scientific assemblies and taking postgraduate courses, from the income tax requirements.—*Ohio State Medical Journal, September, 1925.*

EARLY DIAGNOSIS OF TUBERCULOSIS.—The early diagnosis of all diseases is most desirable, but this is especially true of tuberculosis. Fatigue, loss of weight, and a daily afternoon temperature are cardinal symptoms of incipient tuberculosis, and all children who are not growing or developing properly should be regarded with suspicion. The physician's task is to prove by the most thorough of physical and laboratory examinations that these symptoms are not due to any other cause, and other diseases should not be considered until at least ten negative sputum examinations have been obtained.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK
Editor
Philadelphia, Pa.

A LETTER FROM THE PRESIDENT

TO THE MEMBERS OF THE WOMAN'S AUXILIARY.
My dear fellow members:

Our first annual meeting is past and we have been trying to formulate some plans for the work of this organization for the coming year. I hope all of you have read Mrs. Babcock's address as presented in the October issue of the ATLANTIC MEDICAL JOURNAL. She has outlined so clearly the things we must be doing.

Our first president, Mrs. Wm. E. Parke, is continuing her interest in the Auxiliary and giving her time to the organization work. We hope that before the next meeting in Philadelphia all counties not now organized will be in the work with those already reporting. I am very anxious to hear from both the organized and unorganized counties, and shall welcome most cordially letters from you, asking questions or giving suggestions. In a very short time, I hope to have a letter ready to send out to all counties now at work—an acquaintance letter. I have also written to the officers of the Medical Society of the State of Pennsylvania, asking for instructions or suggestions for our work, and probably shall receive a communication from them in the near future.

At present I would ask that you make a canvas for membership and strengthen your organization. Try to get in touch with the medical society officers of your county; they may have suggestions for some definite work in your own locality. If possible, line up with the women's clubs in your vicinity and try to get them to have at least one "Health Day" program this winter, and, in conjunction with the county society, place speakers from that organization for those "Health Day" programs.

I am happy to announce that Mrs. Sydney A. Chalfant has consented to act as Corresponding Secretary. Her address is 5555 Hampton Street, and mine is 5440 Kipling Road, Pittsburgh, Pa. Letters addressed to either of us will receive prompt attention.

BERTHA G. JOHNSTON
(Mrs. James I. Johnston),
President.

LEHIGH AUXILIARY MEETING

The Auxiliary to the Lehigh County Medical Society held its seventh annual luncheon and business meeting at the Hotel Traylor, Allentown, Pa., Tuesday afternoon, November 17th, with the president, Mrs. Harold Hersh, presiding. About fifty members and invited guests from other auxiliaries were assembled.

The principal speaker for the occasion was Mrs. W. Wayne Babcock, of Philadelphia, the national organizer of similar organizations. Mrs. Babcock gave a very interesting and enlightening address on medical legislation, the new medical bill, and the fight now being waged against cancer. She additionally outlined the devious ways in which all local auxiliaries can assist, and therefore be of benefit to the regular organization of the medical fraternity. The relationship now existing between county, state, and national organizations was further explained.

The Lehigh County Auxiliary is now closing its seventh year, it having been organized several years prior to the State Auxiliary. During this interregnum it worked independently of all other organizations, and now it has become necessary to reconstruct its constitution and by-laws to conform with the requirements of the latterly developed state organization. This is at present in course of accomplishment, and all amendments are about to be adopted finally at the coming December meeting.

The Lehigh County organization has a membership of eighty-three, each and every member thereof being willing and ever ready to coöperate in all local, state, and national undertakings.

The meeting closed with a report from the nominating committee for 1926, as follows: Mrs. V. T. Gangewere, president; Mrs. Chas. Haff, vice-president; Mrs. William Troxell, recording secretary; Mrs. J. T. Butz, corresponding secretary; Mrs. Herbert Guth, financial secretary; and Mrs. H. D. Jordan, treasurer. MRS. HENRY D. JORDAN, Reporter.

A committee of fifty physicians and philanthropists, of Chicago, has undertaken to raise funds to establish a behavior-research institute there, where problems of the child may be studied and work done to prevent juvenile crime and delinquency. The clinic will be allied to the present Institute for Juvenile Research.—*Modern Hospital*, October, 1925.

COUNTY MEDICAL SOCIETIES

REPORTERS OF COUNTY SOCIETIES

ADAMS—James P. Dalbey, M.D., Gettysburg.
ALLEGHENY—Lester Hollander, M.D., Pittsburgh.
ARMSTRONG—Jay B. F. Wyant, M.D., Kittanning.
BEAVER—Francis H. McCaskey, M.D., Rochester.
BEDFORD—N. A. Timmons, M.D., Bedford.
BERKS—Clara Shetter-Keiser, M.D., Reading.
BLAIR—James S. Taylor, M.D., Altoona.
BRADFORD—Stanley D. Conklin, M.D., Sayre.
BUCKS—Anthony F. Myers, M.D., Blooming Glen.
BUTLER—L. Leo Doane, M.D., Butler.
CAMBRIA—Horace B. Anderson, M.D., Johnstown.
CARBON—Jacob A. Trexler, M.D., Lehighton.
CENTER—James L. Seibert, M.D., Bellefonte.
CHESTER—J. A. Perkins, M.D., Coatesville.
CLARION—Hilton A. Wick, M.D., New Bethlehem.
CLEARFIELD—George D. Fussell, M.D., Clearfield.
CLINTON—R. B. Watson, M.D., Lock Haven.
COLUMBIA—C. B. Yost, M.D., Bloomsburg.
CRAWFORD—John W. Hazen, M.D., Meadville.
CUMBERLAND—Calvin R. Rickenbaugh, M.D., Carlisle.
DAUPHIN—W. Minster Kunkel, M.D., Harrisburg.
DELAWARE—George L. Armitage, M.D., Chester.
ELK—Perry O. Hall, M.D., Ridgway.
ERIE—Anna M. Schrade, M.D., Erie.
FAYETTE—Robert J. Billings, M.D., Uniontown.
FRANKLIN—Samuel D. Shull, M.D., Chambersburg.
GREENE—Robert W. Norris, M.D., Waynesburg.
HUNTINGDON—John M. Beck, M.D., Alexandria.
INDIANA—Charles E. Rink, M.D., Indiana.
JEFFERSON—W. A. Hill, M.D., Reynoldsville.
JUNIATA—Brady F. Long, M.D., Mifflin.
LACKAWANNA—G. A. Clark, M.D., Scranton.
LANCASTER—J. J. Sullivan, M.D., Lancaster.
LAWRENCE—William A. Womer, M.D., New Castle.
LEBANON—W. Horace Means, M.D., Lebanon.
LEHIGH—Maurice Kemp, M.D., Allentown.
LUZERNE—William J. Davis, M.D., Wilkes-Barre.
LYCOMING—Wesley F. Kunkle, M.D., Williamsport.
MCKEAN—Francis DeCaria, M.D., Bradford.
MERCER—M. Edith MacBride, M.D., Sharon.
MIFFLIN—F. A. Rupp, M.D., Lewistown.
MONROE—Walter L. Angle, M.D., Stroudsburg.
MONTGOMERY—John C. Simpson, M.D., Norristown.
MONTOUR—John H. Sandel, M.D., Danville.
NORTHAMPTON—Authur B. Hamilton, M.D., Bethlehem.
NORTHUMBERLAND—Charles H. Swenk, M.D., Sunbury.
PERRY—A. R. Johnson, M.D., New Bloomfield.
PHILADELPHIA—Franklin M. Crispin, Philadelphia.
POTTER—Ross H. Jones, M.D., Coudersport.
SCHUYLKILL—Arthur B. Fleming, M.D., Tamaqua.
SNYDER—John O. Wagner, M.D., Beaver Springs.
SOMERSET—H. Clay McKinley, M.D., Meyersdale.
SULLIVAN—P. G. Biddle, M.D., Dushore.
SUSQUEHANNA—Dever J. Peck, M.D., Susquehanna.
TIOGA—John H. Doane, M.D., Mansfield.
UNION—Oliver W. H. Glover, M.D., Laurelton.
VENANGO—John F. Davis, M.D., Oil City.
WARREN—M. V. Ball, M.D., Warren.
WASHINGTON—Charles C. Cracraft, M.D., Claysville.
WAYNE—Hugh Stevenson, III, M.D., Waymart.
WESTMORELAND—ELLSMER L. PIPER, M.D., Export.
WYOMING—Herbert L. McKown, M.D., Tunkhannock.
YORK—W. Newton Long, M.D., York.

DECEMBER, 1925

COUNTY SOCIETY REPORTS

BERKS—NOVEMBER

At its November meeting, the Berks County Medical Society was favored with an address on "Prognosis in Heart Disease," by Dr. Wm. D. Stroud, instructor in cardiology, Graduate School of Medicine, University of Pennsylvania.

Dr. Stroud stated that many people who have damaged hearts live forty to sixty years, and women will even go through child bearing and live many years.

In the United States, there are two million people with diseased hearts—two per cent of the population. In 1924, 263 out of every 1,000 deaths were from heart disease. Heart clinics, of which there are 163 in the country, should be established in all communities.

Heart cases may be divided into three classes: (1) Those with heart affection, who yet can carry on their customary occupation throughout life. They should not be allowed to enlarge upon their condition so as to elicit sympathy. (2) (a) Those with organic disease, who need treatment; (b) those whose activities must be reduced. All communities should have vocational-guiding committees or clinics, or bureaus for the handicapped to arrange for a change of vocation, where needed. (3) Those who cannot do any work because of (a) disease of the myocardium, or (b) heart disease resulting from infection.

Unfortunately, the physician often sees these patients only when acutely ill, instead of which, they should be seen every six months.

The prognosis depends on the condition of the myocardium and its reserve force. Diagnosis should not be based solely on a murmur, or on mitral or aortic stenosis or insufficiency. Murmurs are of value only in establishing the condition of the myocardium; while aortic insufficiency in older persons may be due to syphilis, arteriosclerosis, or rheumatism. In children, an inquiry should be made as to a history of infectious diseases or rheumatism. Examination should be made lying down, as well as after exercise.

Sooner or later, the myocardium will show evidence of any change. In two thousand men treated at the Veterans' Bureau for cardiac disease, and who gave a history of rheumatism, scarlet fever, etc., in childhood, the heart affection was not discovered until after discharge from the army.

The main consideration in cardiac affections is to arrange the patient's future life so that he will not undertake too much or be burdened with too many responsibilities. When such cases overdo, they collapse suddenly.

Usually, in the tertiary stage of syphilis, the myocardium is affected, as shown by palpable spleen, petechiæ, clubbed fingers, etc. A systolic murmur is of definite importance, especially in adults. It is not due to vegetation or roughening of the aorta, but to anything that will affect the orifices by causing vibration of the walls and an abnormal relation of the blood passing from one cavity into another. Still other changes in the heart, such as arteriosclerosis, and various types of murmurs and arhythmias can be differentiated.

In youth, extrasystoles can be cured by removing the cause. Quinidin sulphate is most valuable in auricular fibrillation to prevent its occurrence, but after its onset, should not be used unless the patient is in bed.

In carefully regulated lives, angina pectoris may continue many years without causing death. It is difficult to differentiate between coronary thrombosis and angina pectoris.

Dr. Alexander inquired "What value is exercise in the functional activity of the myocardium?" To this, Dr. Stroud replied that if reaction to exercise is poor, or the vital capacity is low, the exercise must be limited. Before 40, if a patient complains of precordial pain, the existence of cardiac disease must be proved; after 40, its nonexistence must be proved.

CLARA-SHETTER KEISER, M.D., Reporter.

ERIE—NOVEMBER

At the November 3d meeting, held at the Public Library, President Howe presiding, reports from the State Society meeting were received, and several members of the society presented papers on nephritis.

Dr. N. D. Gannon: Nephritis in Infancy.—In infancy, nephritis is relatively uncommon. After infancy, acute nephritis is usually secondary, although it may be primary. Urinary findings do not always suffice for diagnosis. Even albumin and casts may appear under mild congestion of the kidney and rapidly disappear with no permanent injury. If they persist, however, kidney-function tests and blood tests are important.

Three well-defined factors are concerned in the etiology of nephritis: (1) bacterial, (2) bacterial toxins, (3) toxic products—accidental poisons. In early infancy, acute primary nephritis is usually caused by: (1) gastro-intestinal disturbances; (2) infections—pneumonia, meningitis, erysipelas; (3) diffuse skin eruptions—exanthemata, eczema; (4) toxic substances used as local applications; (5) congenital lues; (6) congenital defects of the uriniferous tubules. In older children, the most common causes are the acute infections—tonsillitis, scarlet fever, diphtheria, rheumatic fever, otitis media, pneumonia, empyema, influenza, meningitis, typhoid fever, and erysipelas; also eczema and impetigo.

The bacteria are usually streptococci from the upper respiratory tract—tonsils, sinuses—rarely from peridental infections.

Predisposing causes in childhood are: (1) errors of diet; (2) improper care of the skin; (3) hereditary factors. Exposure to cold and dampness, resulting in kidney dysfunction, is not clearly understood.

There is a history of lassitude, poor appetite, headache, restlessness, disturbed sleep, bed wetting, and frequency, together with pallor, low hemoglobin and a normal red-cell count. In the more severe cases, these same symptoms are increased in severity, and the onset is abrupt, with fever, vomiting, and muscular twitching. In the toxic type with suppression of urine, the patient may be in coma in a few hours. If urinary secretion is reëstablished, recovery may occur after weeks; if suppression lasts over 36 hours, the prognosis is bad, although children bear suppression better than adults.

Chronic nephritis is seldom seen in infancy. In childhood, it may follow an attack of acute nephritis, congenital lues, prolonged sepsis, or bone-and-joint disease. This form shows marked anemia, pallor, loss of strength, casts and albumin, dyspnea, vomiting, and effusions. Intervals of comparative health may occur.

The symptoms vary with the injury to the kidneys and the duration of retention. This, in turn, is due to the cause and extent of injury, and consequent diminution of function. Disturbance is shown by the quantity and quality of the urine. Functional failure is indicated by retention of chlorids, nonprotein nitrogen, urea nitrogen, uric acid, and creatinin.

Dr. A. H. Bunshaw.—In view of the diversity of opinion among the accepted authorities, a good classification is much needed. At present Volhard and Fahr's seems the best.

As applied today, Bright's disease includes a variety of degenerative, inflammatory, and arteriosclerotic processes which are clinically known as nephritis. The degenerative kidney conditions are designated as *nephrosis;* the inflammatory, as *nephritis;* and the arteriosclerotic as *sclerosis.* The first two will be discussed here, as the third type blends in well with the chronic nephritis and nephrosis.

The pathogenic cause of nephritis is, without exception, bacterial. The symptoms may be divided into three stages, rather than into acute and chronic. In the first stage there is: (a) edema, usually slight, occasionally marked and of a recurring nature; (b) hypertension, which also varies in degree; (c) oliguria, diminution of volume; (d) albuminuria, which may be from 1 to 5%; (e) hematuria, also variable as to severity; (f) casts, usually of the cylindrical type; (g) retinitis, usually slight. There is no marked impairment of kidney function in this stage. Healing may take place, or the disease may progress to the second stage, manifested by the following symptoms: (a) hypertension increased; (b) hyposthenuria—power of concentration of the urine is impaired or destroyed, resulting in polyuria and nocturia; (c) albuminuria is decreased, usually ½ to 2 per cent; (d) nonprotein nitrogen is little, if at all, increased. Here we have the beginning of the small kidney. The glomeruli are practically destroyed, resulting in: (a) marked hypertension—180 to 250; (b) beginning hypertrophy of the heart, with its attendant symptoms; (c) lack of ability to concentrate, resulting in a fixed specific gravity; (d) polyuria; (e) increase of nonprotein nitrogen; (f) edema which is constant; (g) retinitis, marked, ending in uremia.

The term *nephrosis* includes all degenerative lesions, cloudy swelling, granular and fatty degeneration, and necrosis of the kidney in which no inflammation can be demonstrated. The clinical picture includes what was formerly known as chronic parenchymatous nephritis without increased blood pressure. Nephrosis is much less frequent than nephritis, and is caused by bacterial toxins, pregnancy, cachexia, and poisoning by the heavy metals. This group of cases is recognized by edema, which may be present for months and even years, associated with marked albuminuria, kidney function usually being unimpaired; by the absence of cardiovascular phenomena such as high blood pressure and retinal changes, and the absence of anemia and of nitrogen retention. The disturbance of renal function is chiefly limited to the marked albuminuria and faulty excretion of salts and water. The studies of Epstein and Fischer tend to show that there is considerable evidence of a disturbance of metabolism.

The existence of kidney disease is often shown by laboratory findings of albumin or blood in the urine. The strictly clinical signs and symptoms group themselves about the triology of nitrogen retention, edema, and hypertension, which are regarded as separate and distinct in their origin and nature. Other symptoms, which might be termed secondary, are dyspnea, headache, weakness, pain in the back, vomiting, thoracic pains, indigestion, epistaxis, cough, mental changes, enuresis, etc.

The practice of making hasty and crude tests for albumin should be condemned, as a small amount of blood will give the reaction for albumin. This might come from any part of the urinary tract outside of the kidney, and thus a diagnosis of kidney disease might be a serious mistake.

The constant finding of a night twelve-hour volume that is more than two thirds of the total 24-hour output, is evidence of chronic kidney disease, provided the individual is not taking a large portion of his daily liquids during the evening. A fresh single voiding is best for analysis, as it is likely to be acid, and casts are not so readily missed. The specific gravity is often misinterpreted, as a single reading cannot be depended upon. The patient's kidneys must be subjected to the "test of effort," so that a low specific gravity will indicate the upper limit of excretory ability. The degree

of albuminuria has very little significance in determining the severity of the disease. A mild subacute nephritis may have a large amount of albumin, while an almost moribund chronic hypertensive nephritis may have little or none. The most important indication is the sediment (from a fresh specimen only), for from its character may be determined the presence of nephritis and its type, the effect of treatment, the appropriate time for getting the patient out of bed, and to a great extent, the prognosis.

While the treatment is almost wholly symptomatic, the symptoms which form its basis are those of renal insufficiency and not of nephritis. There is no drug that has any direct beneficial influence on renal lesions. Complete recovery cannot be hoped for in many cases, and certainly in none of the hypertensive type. The object of treatment is to make the patient comfortable and to prolong life. The acute case must be kept at rest in a warm bed, and all foci of infection eliminated. A chart should be kept showing intake and output of fluid day and night; likewise of chlorids; blood-pressure and specific-gravity variations should be watched; and tests made for blood uric acid, urea, creatinin, and chlorids.

When a complete study of the metabolism has been made, the treatment almost arranges itself. It will be principally dietary, things that the patient is unable to excrete being reduced to a minimum. An occasional starvation day is beneficial, even in nonprotein-nitrogen retention, giving the body an opportunity to be entirely free from toxins for a time at least. Many special diets have been suggested, such as Karel's, which consists solely of 200 c.c. of milk four times a day. The Epstein, or high-protein diet, limited to cases of tubular degeneration with great loss of protein from the body, consists of 120 to 240 gm. protein, 150 to 300 gm. carbohydrate, and 1,200 to 1,600 c.c. of fluid. Allen restricts salt in all cases, and advocated a salt-free diet in nephritis with hypertension. In the latter, the intake of salt must be 2 gm. or less in 24 hours. Since nitrogenous waste comes from metabolism of tissue protein as well as from protein food, in nitrogen retention, sufficient food of other kinds must be substituted to bring the total caloric intake high enough to prevent the use of body proteins. It is questionable whether large amounts of fluid should ever be given in nephritis. In acute nephritis, the renal cells are so extensively damaged that they are unable to excrete water. No amount of it introduced into the circulation will help to promote renal excretion until the cells recover somewhat. Since, in severe cases, the body already contains an excessive amount of fluid, the introduction of more simply results in an increase of the edema. When the renal cells recover, and are again able to excrete appreciable amounts of urine, there is usually more than sufficient fluid in the tissues. At the same time, there is an excessive amount of urea in the blood, and this is one of the best diuretics known. All that is required is an efficient renal mechanism, and when the kidney cells recover, marked diuresis usually takes place, and both fluids and toxins are eliminated. This result cannot be expedited by giving fluids.

While sweating unquestionably eliminates some water and salt, Austin and Miller have found that there is no change in the nonprotein nitrogen of the blood before and after sweating. Unless a greater concentration of waste substance can be removed by the skin than by the diseased kidney, it is not advisable to use sweating, since it weakens the patient and exposes him to the dangers of colds. Its use is questionable, except in cases of pending uremia.

Phlebotomy is of value in acute cases accompanied by hypertension. In chronic cases it is of little value, and should not be used at all unless it is certain that the patient is not already anemic.

Diuretic and diaphoretic measures and drugs are not called for. Neither are drastic cathartics. Mild laxatives are preferable. If the edema cannot be controlled by a salt-free diet and limited water intake, calcium chlorid or ammonium chlorid, 10 to 15 gm. daily, may be beneficial. Cardiac complications, anemia, and other complications, should be treated with appropriate drugs.

The treatment of nephritis is chiefly dietary—proper control of nitrogen, salt, and water intake; rest in bed for the acute case; control of the patient's activities; and the proper treatment of any complications that arise.

Dr. Elmer Hess: Focal Infection and its Relationship to Nonsurgical Disease of the Kidneys.—Foci of infection are potential danger points from which emanate toxins or bacteria that may cause great disturbance in parts of the body which are under par. The great danger from them is their constant wearing attack on the cardiovascular renal mechanism, and particularly upon the urinary part of this system. The kidneys must bear the brunt of any elimination from the blood stream. While normal kidneys often carry on this elimination unimpaired by the poisons that filter through their parenchyma unless the burden becomes too great, let the kidneys fall below par and the damage starts.

Diseases of the urinary apparatus caused by focal infection are nephritis, all types, pyelitis, ureteritis, prostatitis, and seminal vesiculitis. If the infection is severe enough, the acute hemorrhagic type of nephritis may be met (streptococcic), or the process may be degenerative with gradual destruction of the renal cells (toxic type), or there may be added small petechial abscesses which go on to resolution with their subsequent scarring of the parenchyma of the kidney and lowering of function (staphylococcic).

In the treatment of nephritis, the primary thing is to clear up all focal infections regardless of the risk, for destroyed parenchyma cannot be replaced, and damaged cardiovascular systems usually accompany renal dysfunction.

Pyelitis is the most unrecognizable pathological entity in the human body. It is usually complicated by more or less renal-tubule involvement and by ureteritis. Obstruction in the urinary tract below the seat of infection may cause pyelitis. The treatment usually is easily accomplished by cystoscopy and ureteral catheterization. All possible contributing foci of infection should be cleared out or adequately drained.

The gonococcus should not be blamed for any systemic disturbance simply because of its universality, but should be implicated only after all other foci have been found not guilty.

ANNA M. SCHRADE, M.D., Reporter.

FAYETTE—NOVEMBER

The regular monthly meeting convened on the 5th, at 8:30 p. m., in Uniontown Hospital, with an attendance of thirty members.

Dr. Alexander H. Colwell, Secretary of the Allegheny County Medical Society, a member of the staff of St. Francis Hospital, Pittsburgh, and consulting cardiologist of the Veterans' Bureau of Pittsburgh, addressed the meeting on "The Treatment of Emergencies in Heart Practice." Dr. Colwell avoided the highly technical vocabulary of the ultrascientific specialist, and

spoke in a language easily understood by the general practitioner. He gave all who heard him a better understanding of the usual cases that come under the observation of the country doctor. Nothing more helpful has been presented before the society during the year.

HARRY J. BELL, M.D., Reporter.

LUZERNE—OCTOBER-NOVEMBER

At the October 21st meeting, held at 8:30 in the medical rooms, there were fifty-nine members and one visitor present.

Dr. Lewis T. Buckman read a paper on "Pneumography," with lantern demonstration by Dr. L. L. Rogers, reminding us once more of the inestimable value of the bronchoscope in selected cases of abscess of the lung and in the removal of foreign bodies.

Dr. H. I. Evans read a paper on the subject of "Hydrotherapy," stating that it should be a useful adjunct in the practice of the general practitioner, and that there are many conditions in which it will do more than drugs.

President S. M. Wolfe presided at the November 4th meeting, at which sixty-two members and three visitors were present.

Representatives from the Hazleton branch of the Luzerne County Medical Society presented the question of contract practice, stating that two members of this society doing monthly contract practice who had promised to give up this form of work a year ago have failed to do so. This matter was referred to the censors, with instructions to report back to the parent society for action.

Dr. Walter S. Stewart read an article concerning the yearly registration of physicians which begins January 1, 1926.

Dr. Walter Lathrop, Hazleton, read an essay on the subject, "Surgical Significance of Contusions of the Abdomen." This is part of an article which was awarded third prize when read at the Conference of Industrial Surgeons.

Dr. Lathrop emphasized the great importance of early diagnosis and prompt action in the treatment of contusions of the abdomen. It is the experience of physicians who frequently see such cases, that serious injury of any of the viscera—spleen, liver, bladder, kidneys, or intestines and mesentery—may be present without external signs or symptoms. It is often difficult to determine whether such cases require immediate operation, for therein lies the crux of the situation if there is a rupture of any viscus.

When the contusion of the abdomen is severe, shock will be present, due to injury of the nerves or viscera. The features will be pale, mucous membranes blanched, pupils dilated, extremities cold, temperature subnormal, pulse usually rapid and weak, and sometimes nausea and vomiting will be present. Every physician should deem it his duty, in such cases, to call a surgeon in consultation early.

Not every case will show the above symptoms in the first few hours. Much will depend on the extent of the injury done to the underlying viscera. An injured intestine may slough several days after injury and allow the contents of the bowel to escape, with all the classical signs of acute peritonitis; or where the mesentery is torn, gangrene of the bowel supplied by its vessels may develop. This will occur only in cases not recognized early. In Dr. Lathrop's experience, the ileum is most frequently injured, then the jejunum, and last the duodenum. Usually there is only one tear. Trauma sufficient to cause such lesions will carry with it danger of no small significance, and it follows that in no other branch of surgery is prompt action more needed. In injury to the kidney, the patient will pass free blood from the urethra, necessitating an operation such as nephrectomy.

Severe bruising of the abdomen can produce shock out of all proportion to the injury; but in trauma at some given point caused by a blow, kick, or crushing force, a train of symptoms similar to the following usually ensues: rapid, small, and thready pulse, increasing every hour; rapid respiration; a rise, followed by a fall, of temperature; frequently vomiting, usually of significance as a danger signal not to be disregarded, for constant nausea and vomiting is a most important symptom of ruptured intestine; abdominal tenderness and rigidity, simulating that due to ruptured duodenal or gastric ulcer. In Dr. Lathrop's opinion, the history of an abdominal injury with such symptoms demands an exploratory operation.

His conclusions are: (1) All cases of contusion of the abdomen should be most carefully watched. (2) Injury to the underlying viscera takes place in a large percentage of cases. (3) Early operation means success, while every hour after the first eight adds to the danger in case of ruptured viscera. (4) Exploratory laparotomy is comparatively safe, and should be done in all doubtful cases.

Dr. Manfred H. Kudlich, Hazleton, read a historical sketch of the Hazleton branch of the Luzerne County Medical Society, likening the organization of the branch society to the conception and birth of an infant, and stating that "in all three of our major objectives have we been successful—the presentation of worthy subjects in our technical program, the promotion of closer fellowship among the members of our profession, and the eradication of the intolerable system of contract practice." This branch society was formed because of the distance and entailed inconvenience of attending the county-society meetings.

W. J. DAVIS, M.D., Reporter.

LYCOMING—OCTOBER-NOVEMBER

At the October meeting, President Harley in the chair, Dr. D. Hoster Swengel, of Muncy, was elected to membership, and Dr. J. A. Campbell, a delegate to the State Society, reported the work done by the House of Delegates at the Harrisburg session.

Dr. William A. Frontz, Associate in Clinical Urology at Johns Hopkins University: Some Considerations Regarding the Pathology and Treatment of Enlarged Prostate.—Prostatic hypertrophy is a term used to designate a group of cases in which, as a result of adenomatous formations in the various lobes comprising the gland, there is more or less obstruction to the outflow of urine. It is encountered mostly in men past 50 years of age; its etiology is unknown, and it is generally recognized that there exists between the testicle and the prostate a very intimate relationship. This is borne out by experiment as well as clinical observation. Enlarged prostate does not occur in individuals whose testicles are absent. It rarely occurs in men leading a strictly celibate life. The process is a true hyperplasia of gland elements, and does not involve the gland as a whole. The posterior lobe is practically never involved.

The severity of urinary symptoms is due to the obstruction of the vesical orifice and urethra. Serious obstruction may occur from an adenoma no larger than a pea, while, on the other hand, enormous en-

largements may occasion no urinary symptoms. Frequently their development is insidious, and associated with pathological changes in the urethra, bladder, and upper urinary tract, the bladder attempting to compensate by hypertrophy. Later, with the increasing obstruction, there is failure of the bladder to empty itself. The residual urine and the degree of hypertrophy and obstructive symptoms vary from time to time. The symptoms are more pronounced during the night. Increasing intravesical pressure finally results in serious changes in the ureter and kidney, and embarrassment to the renal function. The combination of back pressure and infection produces the clinical picture of renal insufficiency. In the infected cases, all degrees of destruction may be found.

Determination of the functional capacity of the kidney is most essential if surgical treatment is contemplated. Phthalein is universally used to test its excretory capacity, and if it remains constantly at 35%, the patient may be considered a good surgical risk. Determination of the blood urea is valuable if there is a low phthalein output. In certain cases in which the phthalein remains constantly low, the blood urea may always be found to be within the limits of normal.

Preliminary drainage by the employment of a flexible rubber catheter retained in the urethra, or by suprapubic incision may be necessary. The bladder should be irrigated twice daily with some nonirritating antiseptic, and the catheter changed every third day.

The sudden and complete withdrawal of large amounts of residual urine is followed not infrequently by a serious break in the renal compensation. The presence of the catheter is accompanied by added infection and further lowering of renal function. Large amounts of water should be given throughout the preliminary treatment, which has a mechanical value in removing purulent deposits from the urinary tract. Cardiovascular lesions are common.

Selection of the anesthetic calls for careful consideration. Caudal anesthesia has proved satisfactory, preceded by primary ether anesthesia.

Whether a suprapubic or perineal operation is done must depend upon which one the operator can do better. The mortality rate is slightly lower in the perineal operation. There is little or no shock, drainage is dependent, hemorrhage can be controlled, and the patient can be up in a wheel chair on the second or third day after operation. Various special indications may make it necessary to choose this method.

Dr. W. F. Kunkle presented reports of two accident cases. One of these resulted in loss of vision, although the eyeball was saved. The other was a case of third-degree burn of the lids and eye-ball, resulting in 4/200 vision, due to corneal opacity.

Following the meeting, a testimonial dinner was given Dr. Frontz at the Lycoming Hotel.

The feature of the November meeting was a clinic conducted at the Williamsport Hospital by Dr. David Riesman, Professor of Clinical Medicine, and Dr. E. L. Eliason, Professor of Clinical Surgery at the University of Pennsylvania. Dr. Riesman conducted the medical clinic and Dr. Eliason conducted a nonoperative surgical clinic.

After dinner at the Park Hotel, the meeting again convened.

Dr. Riesman: The Medical Aspects of Diseases of the Gall Bladder.—The various types of etiology were discussed, emphasizing the frequent septic infections eventually leading to the formation of gall stones.

A typical attack of biliary colic is characterized by a sudden attack of pain without known cause, in the region of the pyloric end of the stomach. There is a sense of pressure upward, pain radiating to the back. Tenderness over the gall-bladder region may be marked or very slight, and a chill may occur and perhaps be recurrent.

The radiograph is not always diagnostic. Stones may be single or multiple. Jaundice following an attack of colic would indicate obstruction of the common duct, in which case the blood would contain an increase of bile pigment. A related cholecystitis would be associated with fever. In chronic cholecystitis, there is a sense of fullnes, even after a small meal. This also may be induced by exercise. There frequently is hyperchlorhydria which cannot be relieved by the use of alkalies. Symptoms often are obscure, the principal one being so-called nervous dyspepsia. Chronic appendicitis and visceroptosis may induce the same symptoms. In ninety per cent of the cases, the appendix is affected. Death following operation is rare, but may be caused by liver or kidney shock.

The differential diagnosis requires consideration of ulcer of the stomach, pylorus, or duodenum; appendicitis; cancer of the pancreas; renal calculus; Dietl's crisis; and coronary thrombosis.

The treatment must include correction of diet, and elimination of any infection leading to gall-bladder involvement. There is no specific. In the majority of cases, surgical measures must be adopted.

Dr. Eliason: Post-Appendiceal Liver Infections.—The routes of infection were discussed in detail—portal circulation, bile ducts and lymphatics—and the relation of infection from dysentery and chronic appendicitis, both of which may lead to abscess of the liver. A lantern demonstration added interest to the discussion.

W. F. KUNKLE, M.D., Reporter.

MERCER—OCTOBER-NOVEMBER

A dinner given at the Shenango House, Sharon, on October 29th, in honor of Charles H. Miner, M.D., Secretary of Health of Pennsylvania, was attended by seventy-two guests, including members of the Mercer County Medical Society, public-health nurses, health workers, school heads, three attorneys, and some representative citizens of the county. Prof. P. A. Jones, principal of the Sharon High School, acted as toastmaster.

Dr. Miner opened his address by the quotation, "Where there is no vision, the people perish," adding that the same wisdom is applicable today as in the time of King Solomon. Several states, particularly Ohio and North Carolina, have made great progress, and have far outdistanced Pennsylvania in health work. The act approved by the recent Legislature, authorizing appropriations for health work, places the expense largely on the State, although the county commissioners are given the right to appropriate money to bear the county's share. The county that fails to take advantage of this plan is only cheating itself out of its birthright of health.

Farrell, one of the progressive cities of Mercer County, has the highest infant mortality of any city in the State. Sharon's rate also is high, and the entire State is in no position to boast, for 21 states have a better rate. This condition can be corrected and Pennsylvania placed at the head of the list if the people will show the proper interest and insist on the best health service for their communities.

An example of what can be accomplished is offered by the story of North Carolina, once the most neglected state in the Union in this respect. Through Walter Hines Page, former ambassador to Great Britain, North Carolinians were moved to action, and research work and remedial measures soon placed their State to the forefront in health standing.

A county medical director can assist in carrying out the following measures: (1) A better milk supply. Dr. Miner praised Mercer County for its early stand in demanding milk free from the tuberculosis bacillus, which led to its becoming the first accredited county in the State. (2) Immunization of all children against diphtheria. Some work has been done in this respect, but it is just a beginning. (3) Smallpox vaccination. Under the State law governing the vaccination of school children, there is need of a medical director to carry on this activity properly. (4) Better coöperation with the State clinics. Dr. Miner commended the good work done at the clinics held in the Buhl Hospital, and stressed the value of prenatal clinics. (5) Health work in fourth-class school districts—medical examinations followed up with the proper treatment of those in need of care. (6) Better coöperation between the county health board and engineers. This would mean a better water supply and more sanitary sewage disposal.

Dr. Miner's visit was made for the purpose of discussing Mercer County's problems, since the county had requested a county medical director rather than to be linked with another county.

The annual banquet of the county society on November 5th, at the Sharon Country Club, was served to seventy members and guests. In the absence of the president, due to illness, the first vice-president, Dr. Robert M. Brown, acted as toastmaster.

Dr. Thomas G. Simonton, Associate Professor of Medicine in the University of Pittsburgh, gave an address on "Referred Pain in Pneumonia," reviewing the nerve supply of the chest and abdomen, and pointing out that in beginning pneumonia, pain may be referred through the phrenic nerve to the tip of the mastoid, simulating acute mastoiditis. There may also be excruciating pain at the tip of the acromion, or it may be referred to the gall bladder or appendix. Early in the disease, due to irritation of the pneumogastric nerve, vomiting may occur; symptoms of pneumonia may be mistaken for laryngeal diphtheria; or paralysis of the vocal cords, dyspnea, and cyanosis may be present, the true state becoming apparent only on examination of the chest. This condition is usually fatal. In septic peritonitis, pain also may be referred to the tip of the acromion.

Dr. Harold A. Miller, Professor of Obstetrics, University of Pittsburgh, discussed "Pyelitis in Pregnancy," and presented illustrative lantern slides. Dr. Miller said that pyelitis is a very common condition during pregnancy, and that the treatment is postural. If a drug is used, he favors mercurochrome.

EDITH MACBRIDE, M.D., Reporter.

COUNTY SOCIETIES

An ex-president of the Medical Association of Georgia considers that in order to maintain a live county organization, the county-society secretaries should try to have at least two public meetings a year, with a good public-health program. By this means, the confidence of the public will be gained, and the members will be benefited.—*Journal of the Medical Association of Georgia,* September, 1925.

PHILADELPHIA

October 14, 1925

The president, Arthur C. Morgan, M.D., in the chair.

Victor H. Frank, D.D.S.: Dental Items of Interest to Physicians.—Focal infection furnishes a prime point of contact between the physician and the dentist, and it would seem wise to include dental courses in the school of medicine, even as general diseases must be studied by the dentist. Understanding of dental conditions and problems is a great aid to the physician. The pediatrician has charge of the first dental problems. It is he who first lances the gums, who regulates the lime salts in the diet, who helps in forming the child's early habits and watches the development of the teeth. The dentist is too frequently called in only after defects have developed. The time of eruption of the permanent teeth should be known, and care taken not to extract deciduous teeth too early, since the empty space may be encroached upon and later cause an impaction.

The physician should aid in the preparation of patients for dental work, especially in doubtful cases. Case history is important. Cultures should be taken only at time of extraction, and after removal of teeth the diet should be given consideration. Various complications may follow removal of a tooth: pain, either from tearing of the root or from bacterial infection; hemorrhage, 99% of which can be stopped by removing the clot and applying pressure; laceration in difficult extractions, when the parts should be approximated and sutured; swelling, resulting from trauma or infection, which indicates drainage; general alarm—usually in neurotic cases.

As to drugs, 50% oil of cloves, and chloroform, antiseptic mouth washes, and hypodermics, all may be of value. Evidences of scurvy and mercury or lead poisoning may be seen first in the mouth. Iron should be administered through a glass tube to prevent staining of the enamel.

The physician should know what to do in examining the mouth. With dental mirror and explorer he should be able to differentiate fillings, cavities and sensitive spots. Almost any organism except Vincent's may be found in the normal mouth. Gastro-intestinal disturbances may have their origin here. While an x-ray study should be made of the mouth, clinical findings must be considered, too, since incipient conditions may not show in the roentgenogram. The nonmechanical side of dentistry should be of interest to physicians, and more dental studies should be included in the medical schools.

Franklin L. Brickman, D.D.S.: Referred Pain of Dental Origin.—This subject may be discussed under two divisions, according to the causative factors—dead teeth, and vital teeth. It involves the whole theory of focal infection in disease, but vital and apparently normal teeth may cause trouble. Coöperation between the physician and dentist is essential in discovering referred pain of dental origin.

The so-called neuralgias frequently are caused by presumably normal teeth. Causes of pain from vital teeth can be divided into two groups: (1) carious teeth, where there is degeneration of the superficial structure, with congested or exposed pulp, or where some branches of a multiple root may be diseased; (2) noncarious, such as impacted or malposed teeth, hypercementosis with pressure on the nerve, pulp nodules, and traumatic occlusion. The pain may be referred to any part of the head—ear, frontal, temporal, etc.

In discussion, James R. Cameron, D.D.S., said that general pathology rather than mechanics, has now be-

come the greatest thing in dentistry. Consultations between dentist and physician should occur more frequently, and all surgical cases should first be studied by the physician. A common language is needed. In cases complaining of pain in the upper molars or bicuspids, the sinuses should be studied. Postoperative diet must be worked out in detail by the physician. Ice is not to be used postoperatively. Much damage is done by poor reports from the commercial x-ray laboratories. Dentists should be working in every hospital. Impacted teeth should be removed at once.

Earl C. Rice, D.D.S., said that gum lancing is almost never necessary and should not be practiced, since the resultant scar forms a barrier against prompt eruption. He, too, warned against premature extraction, and recommended that deciduous teeth be kept in place as long as possible. When the physician refers an obscure case to the dentist, there should be a conference later. Special diet after extraction is not necessary, since food is as readily digested unmasticated. An anesthetic is desirable in all extractions. Laceration during extraction is sometimes unavoidable. Coagulation time should be taken before extracting, and if indicated, the following prescription may be used to prevent bleeding: Extract of thyroid gr. v, and strychnin sulphate gr. 1/30 made into six doses, one to be taken t.i.d. Compresses or socket plugs may be used to stop hemorrhage, and equal parts of guaiacol and glycerin will give relief from after-pain for three to five hours. There have been many cases of Vincent's angina during the past four years, and the presence of this disease is contraindication to extraction. The roentgenologist is a good photographer in dental work, but not a diagnostician.

George M. Dorrance, M.D., acknowledged that while the dental schools are adding medical subjects, the young physician knows very little dentistry. It is impossible to include more specialization in the medical course; this must be obtained in subsequent association. Many unnecessary extractions are made in cases of undiagnosed tic douloureux. Coöperation with the orthodontist is called for in deformed jaws and high palates. A pure-culture vaccine is hard to obtain from a tooth. Alcoholic injections are useless, since they are temporary, and cause necrosis at the root site. No extraction should be done without medical consultation.

Dr. Frank said he thought regulation of diet essential after extraction.

Dr. Fellows cited a case where there had been constant neuralgia for two years, until, after consultation between physician and dentist, a pulp stone was discovered and the tooth extracted with immediate relief.

Dr. Ersner urged that when a patient is referred to the dentist a full report of the dental findings should be returned to the physician.

Dr. Frank explained that their method of making a culture is as follows: after as sterile an extraction as possible, the root tip is cut off and the culture taken by applicator from the inside.

Dr. Brickman closed by saying that infected teeth should be removed, but in all cases of neuralgia, a complete medical history should be taken first.

October 28, 1925

The president, A. C. Morgan, M.D., in the chair.

Orlando H. Petty, M.D., Wm. H. Stoner, M.D., and Howard W. Schaffer: The Clinical Application of Parathyroid Hormone (Collip's).—Many of the clinical reports on the use of parathyroid extract, stating more or less convincing impressions of clinical improvements, are inaccurate by reason of the failure to take into consideration the effects of hospitalization, diet, rest, etc., alone, and many are conflicting. Claims have been made for this substance in cases of paralysis agitans, sprue, ulcer of the stomach or duodenum, scarlet fever, otitis media, carcinoma, pernicious anemia, and other diseases. The effects are claimed to be obtained through its action on the equilibrium between parasympathetic and sympathetic systems. Unsupported claims have been made for it in tetany, epilepsy, tuberculosis, rickets, eclampsia, etc. Administration of parathyroid hormone causes an increase in serum calcium in parathyroidectomized dogs. One case of tetany was definitely cured by parathyroid hormone and showed a positive change in the serum calcium. In six epileptics, relief was obtained by its use, through restoration of the normal acid-base balance. There is a synergistic action of parathyroid hormone and insulin; hence the former may be used to reduce the insulin dose in diabetes.

The purpose of the paper, however, is to report the results of administration of parathyroid hormone, with reservation of conclusions. Serum calcium, blood dextrose, and phosphorus were studied. Three cases of infantile tetany all showed a rise of calcium and clinical improvement. However, this disease may recover on proper diet alone. The insulin dosage was diminished in three out of six cases by the administration of parathyroid. Cases of cretinism evidenced an increase in serum calcium of over forty per cent, without clinical improvement. The same was true in bronchial asthma. Myositis was improved, while cases of ununited fractures showed no rise in serum calcium. In arthritis deformans, while the calcium increased, relief was doubtful. Indolent ulcers healed in some instances, but whether due to parathyroid or not is hard to say. Blood pressure was reduced, as in the case of administration of the histamin-containing extracts. This result, however, was best obtained by hypodermic injection of 25 units of the hormone daily, less effect being had through oral dosage.

The dangers of parathyroid extract have been overestimated, since the worst effects are nausea and a mild vomiting. The administration should be controlled by periodic serum calcium estimations. The frequent administration of small doses hypodermically has been found best. There is a definite relation between physical well-being and the serum calcium in the body. Parathyroid hormone is especially indicated in infantile tetany. Its use is justified in cases of hypertension and indolent ulcer.

In discussion, Dr. Petty said that the subject of endocrine therapy has been overworked by those who have something to sell, and that this has been made possible by the lack of scientific control and observation. Very few hormones work when scientifically observed. Thyroidium sicca and insulin are the only ones that have a specific, definite action that has been checked by clinical observation and chemical and laboratory tests. The suprarenal extract may be classed with these, though in only one disease (Addison's) is it specific. Pituitary extract has been found useful in obstetrics, but it acts reliably in only one disease, diabetes insipidus. Ovarian, orchitic, and mammary extracts are of doubtful value. Parathyroid hormone elevates the blood calcium. It will cure diseases due to disease of the parathyroid glands, when the blood calcium is low.

Joseph Franklin Montague, M.D., New York City (by invitation): (1) Misreferred Pains of Rectal Origin.—In general practice there are certain chronic intractable ailments, e.g., sciatica, backache, coccygodynia, rheumatic leg pains, whose apparent explanation is a sacro-iliac arthritis, muscular rheumatism, neuritis, or possibly that refuge of ignorance, a focal infection.

Pain may be referred to these regions from other sources however, and the treatment of the rectum may bring immediate relief. For instance, backache may be the result of hemorrhoids, or fissure may cause leg pains on defecation. Study of the neural physiology shows that impulses arising from a diseased rectum travel via the sympathetic nerves to the posterior spinal-ganglion cells of the first four sacral segments, which segments supply also the skin areas of the back, sacral region, and portions of the leg and heel, to which the pain is often directed. The abnormal stimuli coming from the rectum are relayed to the cortex, and a sensation of pain is misreferred to the skin areas supplied by these segments, since it is from them that the brain is accustomed to receive impressions. Treatment, therefore, must be directed to the rectum.

(2) Pruritus of the Perineum (Pruritus Ani, Vulvae, and Scroti).—Treatment for this complaint may very readily be instituted without diagnosis of the causative factor. No case of pruritus ani is unrelievable. It demands rational treatment, and one must attain the viewpoint that the condition is a serious one, causing the patient untold suffering. Diagnosis is the first essential; then therapeutics will become easy. Itching is a sensation aroused along a sensory nerve channel at any point from the skin to the brain, and hence may be misreferred as pain frequently is. Pruritus is a sensation of irritation which in consciousness falls below the sense of pain and is known as itching.

The region should first be examined for local irritation: e.g., abrasion (condyloma), avulsion, maceration, compression, infection, or parasites. The terminal three quarters of an inch of the rectal canal should be examined. In local causes, the operation of undercutting the skin of the perineum is indicated. The investigation, however, must be carried further, since there are other organs which may cause itching here. Ovarian cyst or fibroid uterus, distended seminal vesicles, flatulence and constipation, growths of the bladder, abdominal visceral disease, all must be ruled out. Then the therapeutics is easy when the cause is determined.

Pruritus is a symptom of pathology just as is pain, and should be considered seriously, with a thorough search for the abnormal condition of which it is the evidence. It is a symptom more delicate than pain and often precedes it. Vaccines may be employed, along with operative measures.

J. Rawson Pennington, M.D., Chicago (by invitation): Rectal Diagnosis.—The embryology of the rectum and anus were given in detail to emphasize the fact that the pectinate line becomes a very important anatomic landmark. Here is the distal boundary of the intestinal canal and the proximal boundary of the anus, where the fascial layers converge, and transitional epithelium is found, with columnar above and squamous below. The circulation of this region also bears a definite relation to this line: blood coming to the anus from the iliac, hypogastric, and inferior hemorrhoidal vessels, and returning through the vena cava; blood coming to the rectum from the superior hemorrhoidals, and returning through the portal vein. At the pectinate line also comes a division between sympathetic and cerebrospinal nerves. Therefore, it is a highly specialized region, liable not only to focal infections, but also to a multiplicity of conditions.

Discussion was opened by Collier F. Martin, M.D., who highly commended the motion picture teaching of Dr. Montague and his rational discrimination and treatment of misreferred pain and pruritus. Dr. Pennington's paper was so inclusive as to be difficult for discussion, but he stressed again the importance of a knowledge of anatomy for localization of symptoms.

W. Oakley Hermance, M.D., emphasized the importance of the dividing line between visceral and local pathology in pruritus, since this symptom is one of such grave importance to the suffering patient. Most all rectal troubles may be found by the tip of the finger around the pectinate line.

H. Z. Hibshman, M.D., thinks that any foreign protein will give as good results as vaccine in treating rectal cases. Ablation of the crypts will frequently cure pruritus ani, if of the direct variety. When more than one fissure is present, tuberculosis or lues should be suspected.

Dr. Rubenstone asked whether or not there could be a connection between nocturnal emissions and pruritus ani. Dietetic errors with irritation of the colon, by setting up an eczema, may cause a marked pruritus.

Dr. Pennington commended Dr. Montague on the tremendous amount of work done, but reserved his opinion as to its value.

Dr. Montague, in closing, explained the nocturnal character of pruritus by the fact that when other stimuli are withdrawn, as they are at night, there is a relative increase in intensity of the afferent impulses. The function of the vaccine is only to raise the immune powers of the body. Nocturnal emissions may be explained by the fact that in the chaste there is an accumulation of seminal fluid, and this is nature's method of relieving the congestion. The pruritus is usually better after the emission. Since eczema is an infectious dermatitis, it may occur in any case of pruritus.

MARY A. HIPPLE, M.D., REPORTER.

SOMERSET—NOVEMBER

Officers elected for the following year are as follows: President, Dr. C. I. Shaffer, Ralphton; vice-president, Dr. G. G. Grazier, Holsopple; treasurer, Dr. C. W. Frantz, Confluence; secretary, Dr. H. C. McKinley, Meyersdale (for the 37th consecutive term).

A special committee appointed to revise the by-laws with a view to holding monthly instead of bi-monthly meetings, as at present, reported favorably. After discussion, the report was rejected, largely on account of lack of interest in, and meager attendance at, the meetings. If the coming year should bring increased interest, the matter may be considered favorably later on.

H. C. MCKINLEY, M.D., Reporter.

SUBJECTS FOR PAPERS AT COUNTY SOCIETIES

Pneumonia.
Intestinal Worms.
Foreign Bodies in Trachea.
Summer Patients.
Accident Cases in Mills.
Reports of Medical Examiners.
Consultations—Benefit to Patients.
X-Ray Examination—What Benefit?
Expert Testimony.
Keeping Morons Under Constant Supervision.
Malpractice Suits—Personal Experience.
Remedies—Why Use at All?—New vs. Old.
Yearly Paper on Obstetrics.
Oil Pollution of Potable Waters.
Trained Nurses; Are They Helps or Not? Should They Give Anesthetics?
Résumé of One's Life Work.
Skin Diseases; Ivy Poison; Occupational Poisons.
Fractures—Personal Treatment.
Annual Health Examinations.
Medical Library.—*Journal of the Maine Medical Association,* September, 1925.

PENNSYLVANIA NEWS ITEMS

DEATHS

CARRIE WAGNER MILLS, wife of Dr. H. Brooker Mills, of Philadelphia; November 15.

JESSIE MOYER, wife of Dr. J. C. Moyer, Scranton; aged 46; October 20, in Philadelphia.

ANGELA COLE VAN GILDER, wife of Dr. James E. Van Gilder, Uniontown; September 29.

THOMAS E. ROACH, M.D., Renovo; University of Illinois College of Medicine, Chicago, 1890; aged 60; October 29.

ABRAM V. HICKS, M.D., Pittsburgh; University of Pittsburgh School of Medicine, 1907; aged 41; October 21, of pneumonia.

WILLIAM VAN DOREN, M.D., Archbald; Medical Department of the University of the City of New York, 1885; aged 67; in September.

JOHN J. RECTENWALD, M.D., Pittsburgh; University of Pennsylvania School of Medicine, Philadelphia, 1895; aged 52; November 3.

JOHN JONES OWEN, M.D., Philadelphia; born at Granville, Ohio; graduate of Denison University, Granville, Harvard Medical College, and Jefferson Medical College; resident physician of the Wills Eye Hospital in 1879; resident physician, surgeon, and accoucheur at the Philadelphia Hospital, and surgeon to the Pennsylvania Hospital, 1880; physician-in-chief to the outpatient department of the Pennsylvania Hospital, 1882 to 1897; member of the Volunteer Medical Service Corps of the Council of National Defense during the World War; honorary member of Base Hospital Unit No. 10, attached to the Pennsylvania Hospital; aged 75; November 7.

EDWARD WILLARD WATSON, M.D., Philadelphia; University of Pennsylvania School of Medicine, 1865; physician to the Philadelphia Institute for the Blind at Overbrook for twenty years; also connected with the Chestnut Hill Hospital for Consumptives; member of the College of Physicians, and Obstetrical Society of Philadelphia; in collaboration with Dr. Roland G. Curtin, publisher of a work on influenza, one of the earliest on the subject in this country; author of the poems, "Today and Yesterday," "Songs of Flying Hours," and "Old Lamps and New"; brother of Dr. Arthur W. Watson; aged 82; November 20.

RICHARD H. HARTE, M.D., Philadelphia; born at Rock Island, Ill.; graduate of the University of Pennsylvania School of Medicine, 1878; formerly resident physician at the University and Pennsylvania Hospitals; assistant demonstrator of surgery in the University of Pennsylvania School of Medicine; attending surgeon of the outpatient department of the Pennsylvania Hospital, 1883; later, surgeon of the Pennsylvania, Episcopal, and Orthopedic Hospitals; assistant surgeon to the Gynecean Hospital, consulting surgeon to the Abington General Hospital, the Bryn Mawr Hospital, St. Mary's, and St. Timothy's Hospitals; at the same time, adjunct professor of surgery in the University of Pennsylvania; author of many appers published in surgical and medical journals; editor, for twelve years, of the *Transactions of the American Surgical Association*, and president of that body in 1910-11; former president of the College of Physicians, and also of the Philadelphia Academy of Surgery; member of the Société Internationale de Chirurgie; organizer of Base Hospital Unit No. 10 during the World War, going overseas as its commander; appointed a Companion of the British Order of St. George and St. Michael, August, 1919, for "meritorious service to the Allies"; decorated by the King of Belgium as a Companion of the Order of Leopold; received the Distinguished Service Medal in 1923; surgical consultant for the A. E. F.; member of the Interallied Medical and Surgical Conference; elected a fellow of the Royal College of Surgeons of Ireland "for conspicuous service to the British expeditionary forces"; former Director of Charities and Public Health; aged 70; died of pneumonia, November 14, in a Vicksburg, Miss., hospital, while on a trip through the South with Dr. William J. Mayo, of Rochester, Minn.

BIRTHS

TO DR. AND MRS. NORMAN H. TAYLOR, of Philadelphia, a son, on November 7.

TO DR. AND MRS. WILLIAM M. KENNEDY, of Philadelphia, a son, William Morton Kennedy, Jr., October 31.

MARRIAGES

DR. HAROLD R. WARNER and Miss Mary Wilson, both of Harrisburg, August 2.

DR. JOHN L. BURKHOLDER, of Mt. Pleasant, and Miss Sara M. Pollock, of Wilkinsburg, recently.

DR. JOSEPH E. BEIDEMAN, of Norristown, and Miss Rebecca Morris Balmer, of Valley Forge, June 24.

DR. GEORGE DOCK, of Pasadena, Calif., formerly of Harrisburg, and Miss Gould, of Boston.

DR. WILLIAM T. HAMILTON, of Philadelphia, and Miss Emma S. Rothermel, of Collingswood, N. J., October 8.

MISS ELIZABETH K. NEWCOMET, daughter of Dr. William S. Newcomet, Philadelphia, and Mr. Paul W. Sutro, October 27.

MRS. MARGARET WYANT KLINE, daughter of Dr. and Mrs. J. B. F. Wyant, of Kittanning, and Mr. Roland B. Simpson, also of Kittanning.

MISS KATHERINE LATTA NASSAU, daughter of Dr. and Mrs. Charles F. Nassau, of Philadelphia, and Mr. Noel H. van Roekens, of the same city, November 17.

MISS BETTY MCHENRY FECHTIG, daughter of Dr. and Mrs. Robert Y. Fechtig, of Baltimore, formerly of Philadelphia, and Mr. Lewis Percy Hennighausen, November 3.

ITEMS

DR. HOWARD C. FRONTZ, of Huntingdon, was recently elected a director of the Public Charities Association.

DR. SAMUEL J. MORRIS, of Houtzdale, spent some time in New York during the summer, doing postgraduate work.

DR. HOMER H. LEWIS, of Clearfield, has returned from New York, where he has been doing postgraduate work in pediatrics.

DR. F. R. CLARK, of Berwick, has been elected President of the Eighteenth Censorial District to succeed Dr. T. C. Harter.

DR. GEORGE W. HARTMAN, of Harrisburg, was elected to the American College of Surgeons at their recent meeting in Philadelphia.

PHILADELPHIA has been selected as the meeting place for the 1926 convention of the Graduate Nurses' Association of Pennsylvania.

HAVING REACHED THE RETIREMENT AGE, 65 years, Dr. John M. Bertolet, of Reading, resigned as a member of the general staff of the Reading Hospital.

DR. AND MRS. ALBERT C. LAMADE, of Williamsport, have announced the engagement of their daughter, Martha, to Mr. John Morrison, of Pittsburgh.

AT THE ANNUAL ETHER DAY exercises held at the Massachusetts General Hospital, Dr. John H. Gibbon, of Philadelphia, delivered an address.

DR. A. G. ELLIS, who has been for some time head of the pathological department of the Royal Medical College, Bangkok, Siam, has returned to Philadelphia.

DR. AND MRS. WILLIAM T. SHOEMAKER, of Philadelphia, have announced the engagement of their daughter, Barbara, to Mr. Albert W. Zimmerman, also of Philadelphia.

DR. AND MRS. ALFRED J. OSTHEIMER, of Philadelphia, sailed the latter part of October on the La Bourdonnais for Europe, where they will spend the winter in Southern France.

DR. WILLIAM H. WELCH, of Johns Hopkins University, Baltimore, is to receive from the Pathological Society of Philadelphia the first W. W. Gerhard gold medal for research.

DR. ROSS HALL SKILLERN, of Philadelphia, was chosen president-elect at the annual meeting of the American Academy of Ophthalmology and Otolaryngology held in Chicago, October 19-24.

DR. EDMUND B. PIPER, of Philadelphia, has been appointed on the gynecological and obstetrical staff of the Philadelphia General Hospital to fill the vacancy caused by the death of Dr. John Cooke Hirst.

DR. S. SOLIS-COHEN, a member of the faculty of Jefferson Medical College, Philadelphia, was recently elected a member of the Board of Education of that city to succeed Dr. Cyrus Adler, who declined reëlection.

THE HAHNEMANN HOSPITAL AND COLLEGE, Philadelphia, has purchased for $1,000,000 the property at the northwest corner of Twentieth Street, Callowhill Street, and the Parkway, upon which site will be erected a group of college and hospital buildings.

DR. HARLEY E. FRENCH, who was professor of anatomy and dean of the School of Medicine of the University of North Dakota for fourteen years, and professor of physiology and anatomy at the University of South Dakota for four years, has been appointed assistant professor of anatomy in the University of Pennsylvania School of Medicine.

DR. MARTHA L. BAILEY, of Dillsburg, returned from Europe on the steamship Martha Washington, October 21. Besides spending some time at Vienna, where she took postgraduate work, Dr. Bailey visited in England, Scotland, Wales, Ireland, Sweden, Russia, Switzerland, Austria, France, and Italy, including a cruise on the Mediterranean Sea.

DR. GABRIEL TUCKER, of the University Hospital, Philadelphia, presented bronchoscopic and esophagoscopic cases of general medical and surgical interest, before the Buffalo Academy of Medicine, at its first stated meeting, October 7th. Motion pictures showing the technic of esophagoscopic treatment were also shown. A dinner was given by the Academy in honor of Dr. Tucker.

FIRST PYORRHEA CLINIC IN PHILADELPHIA.—The Philadelphia Clinic for the Treatment of Pyorrhea, the first of its kind to be established in this country, has been opened at 2009 Pine Street. The clinic, which will be open to the public, was made possible through donations of several philanthropic Philadelphians. Clinic hours will be maintained from 2 to 5 p. m on Monday and Thursday. A nominal fee will be charged for treatment to those able to pay.

THE BERKS COUNTY PUBLIC HEALTH ASSOCIATION was organized at a well-attended citizens' meeting held at Medical Hall in Reading on October 15. The officers are: D. K. Hoch, Reading, president; Dr. Louis J. Livingood, Womelsdorf, vice-president; Dr. C. S. Reber, West Reading, secretary; and Lynn Barr, Reading, treasurer. This association will be affiliated with the Pennsylvania Public Health Association, whose annual meeting will be held in Philadelphia the third week of February, 1926.

BARNESBORO TYPHOID EPIDEMIC DUE TO CARRIER.—The hands of another "Typhoid Mary" have been determined as the cause of the recent outbreak of typhoid fever in the Barnesboro district, following a supper held by a fire company. By a field investigation made by the district health officials, a woman who assisted in the preparation of food used at the supper is found to be a typhoid carrier. This woman has been instructed in the precautionary measures she should observe to protect the public from further danger. Three deaths have resulted.

THE EIGHTEENTH COMMENCEMENT of the Training School for Nurses, of the Mercer Sanitarium, was held on Friday evening, November 20th. The program included an address by Rev. Leslie Mountford, and presentation of the diplomas by Dr. W. W. Richardson, director of the Sanitarium, and of the class pins by Elizabeth Leece, directress of nurses. A reception to the graduates was followed by luncheon and dancing.

DEFALCATIONS TOTALING more than $27,000 of the accounts of the Montgomery County Hospital, of which institution he was the secretary, it is reported have been revealed in an audit of the books of Walter R. Moyer, former secretary and assistant treasurer of the Norristown-Penn Trust Company, who, by request resigned from his official bank position some weeks ago. The trust company was the treasurer of the Montgomery Hospital, and Mr. Moyer was secretary of the Hospital Board of Directors. The trust company's accounts show $55,550.07 due from the hospital, but the hospital's last report made the indebtedness only $28,-257.20.

DUE TO THE SUSPENSION of hard-coal mining and the fact that no injured miners are being admitted to the State Hospital at Ashland, that institution is losing upwards of $3,000 a month in revenue. This loss of the usual moneys to which the hospital looks for about one half of its running expenses has brought matters to a critical condition, and a retrenchment policy has been outlined so that all possible overhead expense may be cut down. The operating expenses of the hospital amount to $20,000 a month, while the State appropriation covers about half of this sum. The other $10,000 must be made up from fees charged those who receive the services of the institution.

THE FOLLOWING HOSPITALS in and near Harrisburg are included on the list of hospitals approved by the American College of Surgeons: Harrisburg Hospital, Polyclinic Hospital, Chambersburg Hospital, Lancaster Hospital, Pottsville Hospital, Williamsport Hospital, York Hospital and Dispensary, Annie M. Warner Hospital at Gettysburg, Bloomsburg Hospital, Carlisle Hospital, Good Samaritan Hospital at Lebanon, and the West Side Sanatorium, York. The institutions whose names appear on the approved list are those recognized as fulfilling the fundamental requirements for good service to the patient, as assured through efficient staff organization, adequate diagnostic and therapeutic facilities, trained personnel, complete case records, and periodic check-up or medical audit of the clinical work.

THE APPOINTMENT of Dr. B. Franklin Royer, of Philadelphia, as Medical Director of the National Committee for the Prevention of Blindness, has been announced by Lewis H. Carris, Managing Director of the Committee. Dr. Royer goes to the National Committee from the American Child Health Association, where he was engaged in an important research study covering 86 cities. He was for a number of years epidemiologist and chief medical inspector for the Pennsylvania State Department of Health, and was for four years chief executive of the Massachusetts-Halifax Health Commission in Nova Scotia. With the appointment of a medical director, Mr. Carris announced that the National Committee for the Prevention of Blindness will now be in a position to coöperate even more extensively

than in the past with the medical profession and with local, state, and national health officers and associations.

PHYSICAL EXAMINATIONS FOR STATE EMPLOYEES.—Governor Pinchot recently announced that the State Department of Health is prepared to make physical examinations of all employees of the executive departments. The examination of employees is voluntary except when they are absent from duty on sick leave for five consecutive days in a month, or for eight days in two consecutive months. Other exceptions include employees who are believed by the Health Department to be a menace to the health of others, and all new employees.

THE ALVARENGA PRIZE for 1925 has been awarded to Dr. Raphael Isaacs, Boston, for his essay entitled "The Nature of the Action of Roentgen Rays on Living Tissue." The College of Physicians of Philadelphia announces that the next award of the prize, amounting to about $300, will be made July 14, 1926, provided an essay deemed worthy of the prize shall have been offered. The essays may be on any subject in medicine, but cannot have been published. They must be typewritten in English and forwarded without signature, but marked with a motto, and accompanied by a sealed envelope having on its outside the motto, and within, the name and address of the author. Essays must be received on or before May 1, 1926. Dr. John H. Girvin, 19 South Twenty-second Street, Philadelphia, is the secretary of the committee of award.

NURSING LEAGUE AND GRADUATES' ASSOCIATION MEETING.—The annual session of the Pennsylvania State League of Nursing Education was held at Williamsport, October 26 to 28, in conjunction with the Graduate Nurses' Association of Pennsylvania. The following officers of the latter organization were elected: President, Jessie J. Turnbull, Pittsburgh; first vice-president, Lillian Clayton, Philadelphia; second vice-president, Ester Tinsley, Pittston; secretary-treasurer, Netta Ford, of New York. The following officers of the Nursing Education League were elected: President, Mrs. Mary C. Eden, Philadelphia; first vice-president, Elizabeth F. Miller, Harrisburg; second vice-president, Mina A. Smith, Sayre; secretary, Margaret Lundy, Philadelphia; and treasurer, Emma C. Smith, Pittsburgh. Miss Roberta M. West, of Philadelphia, one of the oldest and best-known nurses in the State, was unanimously elected to compile the nursing history of Pennsylvania. Miss West has been engaged in her profession for more than forty years, and was presiding officer of the Graduate Nurses' Association of Pennsylvania from 1906 to 1910, and from 1917 to 1920.

PHILADELPHIA TO BE MADE BIOLOGICAL CENTER.—A gift of $350,000 by the Rockefeller Foundation for the establishment in Philadelphia of a complete biological abstracting service covering the whole field of pure and applied botany and zoölogy, has been announced. The service will be conducted under the auspices of the Union of Biological Societies of America, with headquarters at the University of Pennsylvania. Grouping of all the existing services under one head will make Philadelphia the center for the dissemination of information on virtually all important phases of activity in the field of biology. *Botanical Abstracts,* the *Abstracts in Bacteriology,* and the abstracting services of several other journals will be merged with the new service. About 35,000 abstracts will be published annually, including papers prepared through the collaboration of biologists in all parts of the world. The abstracts will be published monthly in a journal to be known as *Biological Abstracts,* and, together with the annual index, will comprise about 3,500 printed pages. Dr. J. R. Schramm, of Cornell University, has been made the editor-in-chief of the new organization, and Dr. J. A. Detlefsen, formerly of the University of Illinois and the Wistar Institute of the University of Pennsylvania, associate editor for the field of animal biology.

GENERAL NEWS ITEMS

THE SEVENTH INTERNATIONAL DENTAL CONGRESS will be held in Philadelphia August 23 to 28, 1926.

A BILL HAS BEEN PASSED in Louisiana requiring every male to pass a physical examination and to present a doctor's certificate showing that he is free from venereal disease before he can obtain a marriage license.

THE ORLEANS PARISH MEDICAL SOCIETY, Louisiana, has appointed a committee to devise ways and means of financing a projected advertising campaign, entitled "Pay your Doctor."

COLORADO STATE MEDICAL SOCIETY.—Dr. George Hardin Curfman, of Salida, is now president-elect of the Society. The society has two delegates to the A. M. A., and it is of interest to note that they are designated as senior and junior.

AN ORGANIZATION for the welfare of the physically handicapped in Minnesota has recently been formed under the name of the Minnesota Conference for the Disabled. The objects are the rehabilitation of disabled persons, the correlation of activities concerning them, and the creation of an agency to receive and administer special funds for them.

ANNOUNCEMENT HAS BEEN MADE that the Physicians' Home, Inc., has retained Mr. Charles Capehart and associates, with headquarters in the Times Building, Broadway and Forty-second Street, New York, to organize and conduct a campaign to raise funds for the endowment of a national home for aged, indigent, or decrepit physicians.

CHICAGO TO BE MEDICAL CAPITAL.—President Max Mason of the University of Chicago declared in an address before the Bond Men's meeting at Chicago recently that "The two locations best adapted to the growth of medical science are Cambridge, England, and Chicago, because of the vast research in the basic sciences of their great universities."

DR. CRAWFORD W. LONG MEMORIAL.—An effort is being made to erect a suitable building for educational purposes on the campus of Martin Institute at Jefferson, Georgia, as a memorial to the life and services of Dr. Crawford W. Long. It was at Jefferson, Georgia, that Dr. Long claimed to have discovered sulphuric ether, March 30, 1842.

HEALTH OFFICER TRIES "TO WEED" OUT EVIL.—Dr. Herman N. Bundesen, health commissioner of Chicago, asked the city council recently for an ordinance requiring property owners to cut weeds on their land before they flower. He said many persons became ill every summer from breathing the pollen. The request was taken under advisement.

THE FOLLOWING OFFICERS have been elected by the American Roentgen-Ray Society: Dr. Russell D. Carman, Mayo Clinic, president-elect; Dr. Patrick K. Butler, Boston, and Dr. Charles M. Richards, San Jose, California, vice-presidents; Dr. William A. Evans, Detroit, treasurer; and Dr. Charles L. Martin, Dallas, Texas, secretary. The president for the year is Dr. Thomas A. Groover, of Washington, D. C.

AT THE FIFTY-SIXTH annual convention of the Canadian Medical Association, its Council accepted a grant of $30,000 from the Sun Life Insurance Company of Canada to conduct a course of postgraduate lectures throughout the Dominion. The Association will control and manage the details of the organization, and develop the service, which will be largely used toward helping the rural practitioner to keep abreast of modern medicine.

CANCER CONTROL IN EUROPE.—George A. Soper, Managing Director of the American Society for the Control of Cancer, has returned to New York after a three months' investigation of the problem of cancer control in Europe. He reports that great interest and activity are being shown in research work into the fundamental causes of cancer and in providing patients with the best means of treatment which the existing state of knowledge permits.

THE EASTERN SOCIETY OF ANESTHETISTS met in Philadelphia during the time the Clinical Congress of Surgeons was in session, and held joint convention with the Mid-Western Society of Anesthetists, the Philadelphia Academy of Stomatology, and the American Society of Regional Anesthesia. Dr. Henry I. Dorr, of Winchester, Mass., a graduate of the Philadelphia Dental College, now the Dental School of Temple University, was presented with a silver loving cup, in recognition of "meritorious and munificent gifts in founding and bestowing chairs of research in anesthesia in various colleges of the United States."

DR. JUAN GUITERAS, one of the foremost figures in Cuba's medical world, died suddenly, October 28, at his home in Matanzas. With General William C. Gorgas, U. S. A., and Dr. Jose Lazear, he was prominent in the work of stamping out yellow fever in Cuba and the sanitation of the island. Dr. Guiteras was born in 1852, and began his education in Havana, but in 1860 moved to Philadelphia with his parents. He was graduated from the University of Pennsylvania School of Medicine in 1873. After lengthy service with the Philadelphia Hospital as a pathologist, he was selected by the United States Government to study yellow fever in Cuba. In 1880 he became a physician in the United States Marine Hospital, and in 1886 was made Professor of Medicine at the University of Charleston, S. C. Later he studied pathology at Frankfort, Germany, and assumed the chair of pathology at the University of Pennsylvania.

POSTGRADUATE CLASSES IN STOMATOLOGY.—The following courses, given under the auspices of the American Stomatological Association, are open to duly licensed physicians and dentists: stomatological bacteriology, under the supervision of Drs. Wm. H. Park and Charles Krumweide; diagnosis and focal infection, Drs. G. Reese Satterlee, Homer E. Smith, George Wyeth and others; stomatological hygiene, Drs. Alfred J. Asgis and E. B. Hardisty; dietetics in stomatological practice, Dr. Holmes C. Jackson; clinical dietetics, Dr. Robert H. Rose. Clinical and laboratory courses will be given under the respective instructors in charge at the following institutions: Fordham Hospital; University and Bellevue Medical College; Medical Laboratories; Midtown Hospital, etc. For information, write to the director of classes, Æolian Hall, 33 West Forty-second Street, New York City.

WILMER RESEARCH FOUNDATION STARTS WORK AT JOHNS HOPKINS.—The first unit of the Wilmer Eye Institute, financed by a fund of $3,000,000, opened October 29, as a part of the Medical School and Hospital of Johns Hopkins University. The institute is unique in that it constitutes the first American medical center for research into the causes of blindness and treatment of diseases of the eye. The Wilmer Foundation of New York, formed by friends of the director of the new institute, Dr. William Holland Wilmer, and of which Robert W. Kelley is president and Henry Brenckenridge, former Assistant Secretary of War, is treasurer, coöperated with Johns Hopkins executives in financing the project. Half the fund was supplied by the General Education Board.

DIVISION FOR MEDICAL RESEARCH, U. S. VETERANS' BUREAU.—There has recently been established in the Medical Service of the U. S. Veterans' Bureau a "Division for Medical Research." This division desires to obtain medical personnel specializing in clinical microscopy and roentgenology. This personnel is to be placed in charge of the pathological and x-ray laboratories of the various hospitals and regional offices of the Veterans' Bureau. In the case of clinical microscopists, the Bureau desires men who are graduates of accredited medical schools, who have served an internship, and have done laboratory work and supervised the same in a hospital, including autopsies and tissue diagnosis. In the case of roentgenologists, it is desired to obtain graduates of accredited schools who have served an internship and have had experience in x-ray interpretation, fluoroscopy, and x-ray therapy in a general hospital. Legislation is contemplated, placing the medical officers of the U. S. Veterans' Bureau in a commissioned corps, and on a par with the medical officers of the Army, Navy, and U. S. Public Health Service. Application should be made to the Director, U. S. Veterans' Bureau, Washington, D. C. Attention, Medical Service.

THE PSYCHOLOGY OF MEDICAL INSTRUCTION

The most efficient practical means of imparting instruction to physicians is by means of the programs of medical societies. There are three principal methods of imparting instruction through the programs:

1. The spoken lecture.

2. The visual method in which lantern slides, or diagrams, or other visual helps are used.

3. The clinical, in which cases are shown, or pathological specimens are exhibited, or vivid case histories are read.

The essential features of these three methods are employed in the printed pages of medical periodicals and books.

The spoken lecture reaches the brain through only one avenue—the ear through which words and ideas must go in single file. The visual method adds the broad avenue of the eye, through which ideas may pass in groups, and may pause, or turn back, or resume their entrance at any desired rate. The use of lantern slides and diagrams not only aids the listener, but they compel the speaker to prepare and arrange his thoughts systematically, and to adapt his words to the concrete images which are seen by the eye.

The spoken and the visual methods are usually impersonal and arouse few or no emotions. In distinction to these two methods, the clinical demonstration is personal in a double way. The listeners are always interested in a suffering human being, and if, in addition, they have a similar case in their own practice, the case at once takes on a vital personal meaning to the doctor himself.

A clinical program for a county society is by far the most efficient form of teaching, and the next in value is a talk illustrated with lantern slides and diagrams. A stereopticon is a necessary part of the outfit of a county medical society.

How many county societies own stereopticons?—*New York State Journal of Medicine,* November, 1925.

During the past fifty years there has been not only a decrease in the fertility of marriages, but also a decrease in the number of marriages themselves, according to Sir William Beveridge, writing in a recent issue of *Economica.* The changes he attributes to human purpose, and to birth-control propaganda, and declares that our present problem is to find out how to apply the principle of birth control for the good of the race. —*Medical Journal and Record.*

THE

MEDICAL SOCIETY OF DELAWARE

A NOTE ON THE TREND OF THE TIMES*

JOSEPH P. WALES, M.D.
WILMINGTON, DEL.

This meeting today is the 136th anniversary of the Medical Society of Delaware, making it the third oldest medical society in the country. The honor of being elected your president is deeply appreciated.

No particular text has been selected for these remarks, but they will be confined chiefly to a consideration of the duties of a physician towards the community in which he lives. A few decades ago, the physician was rather frowned upon if he took too active a part in public affairs; today he must assume his full share of responsibility for the civic welfare of his fellow men.

Preventive medicine is a comparatively new idea, based on medical science, and which I am proud to say originated within the profession. Starting with the purification of water supplies, the enforcement of quarantine, disposal of wastes, wholesale vaccination against typhoid fever, and other preventive measures, it has gradually led to that great movement known as child welfare. At the outset, the child welfare movement aroused a certain amount of antagonism among the profession, although originated and endorsed by its members. Part of this hostility was due to the fear of some physicians that government control might lead to paternalism. Others were apprehensive lest the increase of free medical clinics would further pauperize an already too-large proportion of our population. There is no doubt that abuses did creep in under the mask of public health; nor is there any greater menace than the further increasing of a vast and willingly dependent class that already existed before this movement started.

The good that child welfare has accomplished in its few years of existence, in my opinion, more than out-weighs any such fears on our part. This opinion is based, not on any statistics with which we may be deluged, but on personal observation and conversations with brother physicians of experience. The decline in mortality from diarrheal diseases, enterocolitis, and cholera infantum has been too marked to escape even the casual observer. From this, it is evident that the work done by the various child-welfare agencies is showing good returns for the time, money, and energy expended.

However, a word of warning may not be amiss. The child-welfare movement is a child of our brain; it is a healthy youngster, and growing rapidly. Let us keep a paternal eye on its future progress, guide, and help it, and above all, not turn it over too much to the willing but sometimes misguided direction of philanthropists, reformers, or nurses.

The medical profession is long suffering. We endure the introduction in our midst of all sorts of quack schools, new cults of thought, the perpetration (by the laity mostly) of such bills as the Sheppard-Towner Act, the Volstead Act, and, in our own State, that illegitimate child of the Volstead Act, the Klair Law, which is an insult to the intelligence and integrity of each and every one of us. Every year, there is an increasing tendency towards a more paternalistic form of government.

The remedy appears to lie in the education of the laity. The physician is a pedagogue as well as a healer. The questions of the examination of school children, their hours of play and rest, the care of the expectant mother, birth control, the proper administration and the right to prescribe alcohol to those of our patients whom we think need it to save or conserve life—all these important things have been and still are being decided by boards or legislatures composed of farmers, clergymen, carpenters, lawyers, with or without the expert advice of medical men.

Has not the time arrived when the weight and authority of the medical profession should be extended to every individual, when the people should be taught to sift the good from the evil? No profession, except ours, tries to eliminate itself by preventing or eradicating its source of revenue. Nevertheless, we have nothing to fear from preventive medicine; we need fear only those who lack the experience and judgment to

* Presidential address delivered before the Medical Society of Delaware, Wilmington, October 14, 1925.

conduct it properly. The members of the medical profession are and always have been eager and willing to raise the standard of physical and mental health, and thus contribute their share toward the welfare and happiness of all mankind.

EDITORIAL

MEDICAL PROGRESS IN DELAWARE

For years we have felt apologetic for the backwardness of some of our Delaware doctors in failing to follow the latest advances in medicine. It has seemed to us deplorable that our physicians, of average proficiency, and here and there of even exceptional ability and good training, should be satisfied with a routine humdrum practice, leaving it to their confreres in Philadelphia, Baltimore, or New York to perform for them the more difficult tasks in the diagnosis and treatment of the more obscure ailments. Many of our younger men in the profession have been content to throw their splendid medical training to the winds, and, emulating a few of the older men, evaluate their success by the number of calls in a day, their ability to buy expensive automobiles, or take a fling at the stock market. A few years back, at their gatherings, they would spend the time in telling stories, or discussing the relative merits of their automobiles, or gossiping about each other. When they would read papers, it would be on some trite subject, without any originality or evidence of profound thought. When the need for a particularly attractive program would arise, a man from the outside would be invited, and he would come in all his glory to tell these country yokels about some modern advance in medicine, something they would have known all about, had they been reading their medical journals, instead of the *Saturday Evening Post* or the pamphlets issued by commercial houses.

The public has been fully aware of this situation, and, taking our doctors at their own valuation, permitted them to treat the minor ailments only, and when an obscure condition arose, demanded consultation with a physician from out of town.

Now, all this is changing; and we witnessed the evidence of this change at the last meeting of our State Medical Society. One after another, our young men, our very own, came to the front to tell us about the serious medical work they are doing. One told us about his interesting studies of genito-urinary cases, another about his work with the electrocardiograph, another about his findings in gall-bladder disease, still another about his radiographic findings in duodenal ulcer, and finally a very careful all-round study of a large number of gastro-intestinal cases. In the words of the flapper, "could there be anything sweeter" presented?

Now that we have made the start, there will be no turning back. The ice has been broken, ambition aroused, and the way shown. From now on, our doctors in Delaware will forge ahead, and "Main Street" will be wiped off the map.

TRANSACTIONS OF THE MEDICAL SOCIETY OF DELAWARE

The 136th annual session of the Medical Society of Delaware convened in the Hotel Du Pont, Wilmington, Del., on October 14, 1925, at 9:00 a. m., with President J. P. Wales, Wilmington, presiding.

The invocation was delivered by Reverend Robert Bell.

DR. G. W. K. FORREST, MAYOR OF THE CITY OF WILMINGTON: Gentlemen: It is rather a peculiar position in which I am placed; for it is difficult, in speaking to a gathering of medical men with whom I have been associated for many years, to remember that I should welcome you here as the Mayor of the City of Wilmington. I shall try to forget that we are practicing physicians..... It is a very great pleasure to welcome you to this municipality. We are proud of our city, for we have many things to call forth our pride. For the extremely low tax rate, we have wonderful streets; we have sufficient sewers to take care of our gradings; we have a good Department of Public Safety; we have active men in our various commissions.

While you are here, if you have an opportunity, we should like you to view the city, not only from the standpoint of sanitation, but also to see the playgrounds and the new school developments. As Mayor, I wish to extend the freedom of the city to you. I have visited quite a number of places of comparatively the same population, and we stand near the top of the list.

Do as you please here today, because we know we can trust the medical profession.

Dr. Joseph W. Bastian, Wilmington, acted as temporary chairman while the President, Dr. J. P. Wales, delivered the presidential address which appears elsewhere in this issue.

Secretary W. O. LaMotte, Wilmington, read the report of the House of Delegates, which was accepted as read.

President Wales requested Dr. J. B. Derrickson, Frederica, to take the chair, and he addressed the meeting, taking exception to the nominations for the Committee on Public Policy and Legislation, claiming that this is a most important committee, and he felt the Society should nominate men who take an active interest in its affairs. Upon motion of Dr. Bastian, duly adopted, the President was instructed, after proper consideration, to nominate a Committee on Public Policy and Legislation to take the place of that named by the Nominating Committee. President Wales nominated Drs. Victor D. Washburn, Isaac J. MacCollum, and J. Roscoe Elliott.

Dr. Brice Sewell Vallett, Wilmington, read an interesting paper, with lantern demonstration, on "Uro-

logic Case Reports," which was discussed by Drs. Briggs and Washburn.

Attention was called to the fact that Attorney Ridgely, of Dover, had done certain legal work, and was particularly courteous to the Medical Society of Delaware in preparing an act and representing the Society without charge. A motion was adopted instructing the Secretary to acknowledge Mr. Ridgely's courtesy with thanks.

Dr. Charles W. Richardson, Washington, D. C., Trustee of the American Medical Association, delivered an address on "The Activities of the American Medical Association." A rising vote of thanks was tendered Dr. Richardson.

During the discussion on this paper, Dr. Bastian called attention to the publication *Hygeia,* stating that each year he makes Christmas presents of a yearly subscription to this magazine and he would like to see more members of the profession follow this custom.

DR. W. E. BIRD, WILMINGTON: More important is the fact that officially the American Medical Association is trying to resell American medicine to the American people. We all know the story of the cults and isms. Nevertheless, it is very encouraging to hear that headquarters has under way a campaign to bring before the people in a proper and ethical manner some of the outstanding attainments of the medical profession. Texas had a remarkable and emphatic campaign; it is time we in Delaware were doing something of the sort.

DR. WALES: Apropos of what has already been said, I believe one of the reasons we have not occupied the position we might have, is that medicine used to be shrouded with an air of mystery. Our predecessors did not tell the people enough. One of the things we must do today is to be honest; thus we shall eliminate the cults and isms that have sprung up like mushrooms within the last decade.

Dr. Olin S. Allen, Wilmington, read a paper, with lantern demonstration, on "Electrocardiograms; Illustrating Some Clinical Cases."

Dr. John Eiman, Philadelphia, delivered a talk, with lantern and specimen demonstrations, on "The Conduction System of the Heart, and Injection of the Purkinje System of the Heart." A rising vote of thanks was tendered Dr. Eiman.

Dr. P. W. Tomlinson, Wilmington, Chairman of the Committee on Necrology presented to the meeting resolutions on the death of Dr. Henry J. Stubbs.

Dr. Ira Burns, Wilmington, read a paper, with lantern demonstration, on "The Roentgenological Aspect of Duodenal Ulcer."

Dr. George W. Vaughan, Wilmington, read a paper on "The Diagnostic Values of the Duodenal Tube."

Dr. Jay F. Schamberg, Philadelphia, delivered an address on "The Modern Treatment of Syphilis," stating that the disease is curable today through the application of the most recent discoveries in connection with its treatment, provided it is taken in time. After discussion, a rising vote of thanks was given Dr. Schamberg.

Dr. Williams H. Kraemer, Wilmington, read a paper on "The Findings in Two Hundred Gastro-intestinal Examinations," accompanied by a very interesting chart. Dr. Tomlinson congratulated Dr. Kraemer's technician on the work.

Dr. I. J. MacCollum nominated Dr. J. B. Derrickson, of Frederica, as President, and Dr. Derrickson was unanimously elected for the year 1926. Dover was selected as the meeting place for next year, the session to be held on October 12 and 13, 1926.

The meeting adjourned at 5:30 P. M.

W. O. LAMOTTE, *Secretary.*

A CORRECTION

In the November (1925) number of the ATLANTIC MEDICAL JOURNAL, page 134, it was stated that the Councilors elected at the 1925 meeting of the Medical Society of Delaware were: Drs. H. W. Briggs, I. J. MacCollum, and O. V. James. The Nominating Committee overlooked the fact that the term of Dr. J. W. James does not expire until 1926. Hence, the Councilors serving next year are: Drs. J. W. James, H. W. Briggs, and I. J. MacCollum.

BOOKS RECEIVED

THE MEDICAL RECORD VISITING LIST, or Physicians' Diary for 1926. Revised. New York: William Wood & Company. Price $2.00.

THE MEDICAL DEPARTMENT OF THE UNITED STATES ARMY IN THE WORLD WAR. Volume XV—STATISTICS. Part II, Medical and Casualty Statistics, based on the medical records of the United States Army April 1, 1917, to December 31, 1919, inclusive. Prepared under the direction of Maj. Gen. M. W. Ireland, the Surgeon General. By Maj. Albert G. Love, M.C., U. S. Army. Washington: Government Printing Office, 1925. Price $3.00.

METHODS AND PROBLEMS OF MEDICAL EDUCATION. Third Series. Division of Medical Education, The Rockefeller Foundation, 61 Broadway, New York, N. Y., 1925.

MAN: HIS MAKING AND UNMAKING. By E. Boyd Barrett, M.A., National University, Ireland; Ph.D., Louvain University; Professor of Psychology, 1923-4, Georgetown University, Washington, D. C. New York: Thomas Seltzer, 1925. Price $2.50.

SUBMUCOUS ENDOCAPSULAR TONSIL ENUCLEATIONS, with discussion of the evolution of knowledge of the tonsil as a disease-producing factor and various methods of enucleation. Excerpts from clinics of Charles Conrad Miller, M.D. The Oak Printing & Publishing Co., 112 N. Wells St., Chicago, Ill.

INSECTS AND DISEASE OF MAN. By Carrol Fox, M.D., Surgeon, U. S. Public Health Service. With 92 illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price $4.00 net.

PROCEEDINGS OF THE CONNECTICUT STATE MEDICAL SOCIETY, 1925. 133d Annual Meeting held at Bridgeport, May 20th and 21st, 1925. Editor, Charles Williams Comfort, Jr., M.D. Published by the Society.

DISEASES OF INFANTS AND CHILDREN. By Henry Dwight Chapin, A.M., M.D., Emeritus Professor of Medicine (Diseases of Children) at the New York Postgraduate Medical School and Hospital, and Lawrence Thomas Royster, M.D., Professor of Pediatrics and Head of the Pediatric Department of the University of Virginia. Fifth revised edition. New York: William Wood and Company, 1925. Price $6.00.

BOOK REVIEWS

From a reviewer we expect information and advice which shall guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

A MANUAL OF PHYSICAL DIAGNOSIS. By Austin Flint, M.D., LL.D., late Professor of the Principles and Practice of Medicine in Bellevue Medical College, etc. Ninth edition, revised by Henry C. Thacher, M.S, M.D., Attending Physician, Lin-

coln Hospital, and Assistant Attending Physician, Roosevelt Hospital, New York. Price $3.25. Pp. 311. Philadelphia and New York: Lea and Febiger, 1925.

The statement has been made that the reason so many people write long letters is because they don't have time to write short ones. The majority of authors of American medical textbooks have been very busy men, but the authors of this book took time to make it short, and like Abou Ben Adem, "May their tribe increase."

Studying physical diagnosis from a book is much like taking a correspondence course in auto repairing. Observation and practice are the best methods of learning a manual art; if any book is advised, a manual is certainly the most suitable. After the practitioner has mastered the contents of this little book, it will be time for him to take his big books off the shelf for collateral reading. This book, however, fits naturally into his hand, and a book in the hand is worth two on the shelf.

ENZYME INTELLIGENCE AND WHENCE AND WHITHER. By Nils Quevli, LL.D., Registered Pharmacist. Minneapolis: The Colwell Press, Inc., 1925, pp. 578.

This book is said to prove "that enzymes and ferments are the ultimate indestructible and invisible units of life, and are conscious and intelligent; that these units produce and maintain all of the living things that we see; and that each of our bodies is a republic established by enzymes coming from the invisible world of life to which we return when we die."

Its author is undoubtedly extremely clever and versatile, as well as intensely in earnest, and has brought together a great array of facts from biological and other natural sciences in support of his thesis. But the reader is soon struck by the unconventionality of his method and the crudity of his product.

Now, unconventionality in itself is not to be discouraged: it may be a mark of genius or a proof of brave originality. We should, therefore, disapprove of adverse criticism not founded upon more serious objections. But unfortunately, the unconventionality soon shows itself to be associated with lack of discriminative judgment and a too-vivid imagination, both of which seem to result from defective early training. The result is a book composed largely of excerpts from the writings of eminent scientists, clippings from popular magazines and daily newspapers, interspersed with bits of poetry, miscellaneous illustrations, and the comments and conclusions of the author, making a kind of *Thousand and one Nights' Scientific Entertainment* for the reader.

The arrangement of the matter is fairly systematic, but the deductions are amateurish, the style vulgar, and the grammar bad, as will be evidenced by the following quotations:

"Now in my opinion there can be no mystery connected with why the digestive enzyme pepsin, does not attack the stomach, which is meat, as well as attacking meat brought into the stomach. My answer to the question 'Why do they not digest or tear down the structure of the stomach?' is simply because, enzymes are conscious, intelligent, living beings like ourselves, and we certainly would not attack and destroy our own dwellings unless we were 'crazy.' We also find that enzymes and ferments are dazed and affected by violent shaking in the same manner as other living beings, and that they recover and come back to action again after a reasonably short time."

"Non-intelligence cannot become intelligent except by a miracle. Matter has no intelligence as we understand the meaning of that word. The phrase 'chemical messenger' is an absurdity. The messengers that come out of the glands are not mere molecules of matter, but intelligent beings. We call him a 'hormone.'"

"You remember the illustration given by Ernest Haekel that if you poke and irritate the single celled animal we call an amœba, it may decide to quit business and go into spore form by encasing itself in a hard shell."

"Now we know that the sex glands are occupied by the gentlemen who have the special business of reproduction to look after because if the glands are removed its business is at an end."

One constantly finds quotations introduced with the words "My biology says," "My bio-chemistry says," etc., without mention of the name of the author of the books referred to, so that the reader is left in doubt whether the writer quoted is an authority as well as an author.

Lastly, but not least in importance, there is no index of any kind to the 578 pages of printed matter, so that to find again anything that may be remembered with approval or disapproval, it is necessary to turn over the pages in what may be a fruitless search unless one has unlimited time at his disposal.

OCULAR THERAPEUTICS. By Dr. Ernst Franke, A. O. Professor of Ophthalmology and Chief of the Second Eye Clinic at the University of Hamburg. Translated by Clarence Loeb, A.M., M.D., Oculist to the Michael Reese Hospital, and Head of the Department of Ophthalmology of the Michael Reese Dispensary, Chicago, Ill. St. Louis: The C. V. Mosby Co., 1925.

This volume of 183 pages is divided into four chapters as follows: (1) Introduction, (2) General Treatment, (3) Local Treatment, and (4) Special Part. The chapter on general treatment is the largest. To this subject there are devoted 68 pages of text; local treatment is presented in 58 pages; while in the Special Part of 23 pages are enumerated the various ocular lesions and their treatment. There has been little or no discussion of the merits of the various therapeutic measures employed. The author, in his preface, states that he "intentionally refrained from a critical discussion of the different methods of treatment." For the average ophthalmologist of this country, this volume, containing so many little-known, rarely used drugs, will be an ophthalmic glossary.

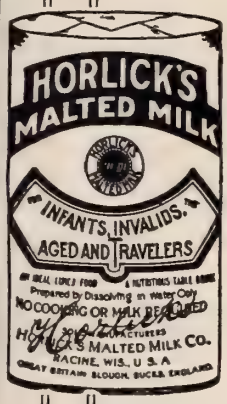
SYMPTOMS OF VISCERAL DISEASE. A study of the Vegetative Nervous System in its Relationship to Clinical Medicine. By Francis Marion Pottenger, A.M., M.D., LL.D., F.A.C.P., Medical Director, Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, Cal. Third edition, with 86 text illustrations and ten color plates. Cloth, pp. 394. St. Louis: The C. V. Mosby Co., 1925. Price $6.50.

In this new edition, the material is rearranged so that Part I considers the "Vegetative System" generally, anatomically, physiologically, pharmacologically, etc. Part II considers the "Relationship between the Visceral Nervous System and the Symptoms of Visceral Disease." Part III considers the "Innervation of the Important Viscera with a Clinical Study of the More Important Viscerogenic Reflexes."

The author has succeeded in reducing a subject apparently of merely theoretical value to a practical clinical basis. The division of the vegetative system into sympathetic and parasympathetic, and the generally antithetic action of the two are well delineated. The text represents a wealth of material gathered from the most recent anatomy, physiology, and pharmacology pertaining to the vegetative nervous system. Such deductions as are made to fill gaps or clear doubts in the knowledge extant on the subject are frankly admitted as hypothetical. The deductive method is not scientific, however, and it would be far better to confine ourselves to the inductive method.

As an illustration of the fine detail characteristic of Part III, the author's division and subdivision of Chapter XVI follow: The Stomach. (1) The Innervation of the Stomach (Parasympathetics. Sympathetics. Digestive Control, both Nervous and Chemical.) (2) Clinical Consideration (Psychic Influence on Digestion. Gastric Visceromotor Reflex. Gastric Viscerosensory Reflex. Gastric Parasympathetic Reflexes. The Manner in Which the Stomach is Reflexly Influenced by Other Organs—Hyperchlorhydria, Hypermotility, Dilatation, Nausea and Vomiting, Cardiospasm).

(Continued on page xiv.)



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BOOK REVIEWS

(Continued from page 200.)

Such treatment is accorded also to the heart, intestines, lungs, aorta, liver, nose, lachrymals, larynx, blood vessels, etc., making the work exceptionally suitable for practical reference. The illustrations well suit the text, and all are finely executed, quite a number being original with the author.

The index is fully acceptable, and the bibliography necessary for references succeeds each chapter. As a complete study of reflexes related to the vegetative system, the work will be difficult to parallel.

Very few errors appear in the text. On page 33, "sudy" for "study"; 42, "straited" for "striated"; 139, "ventrical" for "ventricle"; and in Plate VIII, the lines indicating sensory paths are blue, not green as the text indicates.

Why the painful area in appendicitis is constantly the same irrespective of the location of the appendix is one of the very many interesting practical points explained in this valuable work.

CLINICAL FEATURES OF HEART DISEASE. An Interpretation of the Mechanics of Diagnosis for Practitioners. By Leroy Crummer, M.D., Professor of Medicine, University of Nebraska. Introduction by Emanuel Libman, M.D., Physician to Mt. Sinai Hospital, New York. New York: Paul B. Hoeber, Inc., 1925. Price, $3.00. Pp. 353.

This book is interesting and easy to read, well arranged, and the subjects are logically grouped. An unusual feature is the extracts which precede each chapter and sustain the reader's interest. The considerations of heart disease are, unfortunately, rather brief and incomplete, so that the volume can scarcely serve as a textbook. We could wish the author had written more.

Physicians who are especially interested in heart study will share Dr. Libman's introductory delight in the volume, for it contains a wealth of clinical experience of a personal character, and a wealth of information gathered only by prolonged and intimate bedside observation of patients. For the above, the book recommends itself. It tells nothing new in the diagnosis and treatment of cardiac disorders. The emphasis laid on the simple clinical methods of clinical heart investigation is timely; but the brief allusion to graphic methods is regrettable. Cardiographic methods of heart study have attained to such a high regard in medicine that they can no longer be dismissed with a gesture of inconsequence. All in all, the book is well worth reading, even though its possession might not enrich one's library to any great extent nor aid in solving those problems that present themselves in the consideration of heart affections and their treatment.

BACTERIA IN RELATION TO MAN. A Study-Text in General Microbiology. (One of Lippincott's Series of Nursing Manuals). By Jean Broadhurst, Ph.D., Associate Professor of Biology, Teacher's College, Columbia University, New York. Cloth, price $3.00, pp. 306, 8mo, with 147 illustrations. Philadelphia: J. B. Lippincott Company, 1925.

This "study-text" is written with a view to presenting the outlines of elementary bacteriology and protozoölogy, thus assisting the student to use the larger and more comprehensive texts and monographs.

While apparently intended chiefly for use in the nurses' training school, the work would serve a very useful purpose in medical-preparatory college along the lines of microscopy and elementary bacteriology.

Following the introductory section on microscopy, chapter 1 deals most comprehensively with the green-plant cell, and the functions of green-plant tissues. Many simple but practical experiments are outlined to demonstrate photosynthesis, and the carb-oxygen cycle .....The following chapter presents the histology of the cell in general, and the comparative physiology of

(Concluded on page xvi.)

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BOOK REVIEWS

(Concluded from page xiv.)

green-plant cells. In chapter 3, the morphology of molds and yeasts is outlined in general. The usefulness of some varieties is discussed, together with the rôle played by pathogenic types. In this way, the first 72 pages are allotted to subject matter irrelevant to the title, but highly instructive to the beginner in bacteriology.

The text following deals with bacteria and protozoa, outlined chiefly from a morphological viewpoint. Then follows work on bacterial culture—culture technic; culture media; bacterial life requirements; bacterial staining; disinfection; sterilization by heat, light, etc.; bacteriology of air, water, milk, soil, nitrogen cycle, economic phases of bacteriology, etc. The last two chapters outline bacteria as a cause of disease in man. An interesting chronology of bacteriologic discoveries is tabulated in the last chapter. The appendix contains many of the more common culture-media formulæ and stain formulæ. The reaction of culture media, use of indicators, titration of media, and the colorimetric determination of Ph concentrations are also considered in this appendix.

The method of subject presentation is chiefly by table, outline, or synopsis. These are always full but not wordy, highly instructive, and practical if the books recommended in the lists at the end of each chapter are faithfully consulted by the student.

The analytic method of pedagogy is favored throughout, the student being forced to draw his or her own inferences from the experiments and helps of the text. Enough brief information is constantly interjected to guide the student mind along logical scientific pathways.

The numerous drawings and photographs are clear but interesting in their simplicity, impressing indelibly the high lights of the subject.

Taken in its entirety, the work represents the highest type of teaching in the curriculum of the nurses' training school; of great value in fundamental teaching, provided enough time could be found in the undergraduate years of a nurse's course, to cover the subject as outlined.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued every other month). Volume V, Number IV. (Chicago Number—August, 1925), 246 pages with 54 illustrations. Per clinic year, paper, $12.00; cloth, $16.00 net. Philadelphia: W. B. Saunders Company.

This number is, as is usual in other issues, full of good practical facts on subjects pertaining to surgery. The list of contributing surgeons is lengthy and includes the names of some of the foremost Chicago surgeons. The subjects treated are of interest to the general surgeon, as well as to specialists in various surgical branches, and the issue is well illustrated. The articles are short and concise, and the profession will receive many valuable points.

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NEPHRITIS IN CHILDREN*

SAMUEL W. CLAUSEN, M.D.
ROCHESTER, N. Y.

In this paper, nephritis will be considered as a general systemic disorder, due to infection. The infection is usually local; the injury is widespread, and most striking in the kidney. It is possible and advantageous to distinguish clinically two types of nephritis; glomerular and tubular. Points of distinction are given in Table 1. Analysis of all cases of nephritis (129) treated at the St. Louis Children's Hospital from 1916 to 1925 permits a classification as follows: glomerular—recovered 73, died 20, "chronic" 9; tubular—recovered 14, died 11, "chronic" 2. It must be observed that true chronic nephritis is rare. With few exceptions (cases of renal infantilism), those cases termed "chronic glomerular nephritis" were slowly progressing or "subacute." The cases of "chronic tubular nephritis" might better be termed "recurring." It must further be noted that mixed forms occur; these were invariably severe glomerular forms from the outset, with later development of additional features pointing to the tubular type. We have not observed the occurrence of the reverse sequence.

TABLE 1

POINTS DISTINGUISHING GLOMERULAR FROM TUBULAR NEPHRITIS

	Glomerular	*Tubular*
Etiology—infection	Streptococcus. Tonsils	Staphylococcus. Sinuses
Pathology, gross	Red kidney (large) White kidney in cases with anasarca	Large white kidney
Pathology, microscopic	Hemorrhages. Changes in glomeruli. Fibrin	Tubular degeneration No fibrin
Capillaries, form	Typical changes; Petechiæ	Normal
Blood pressure	Elevated at some time	Normal
Eye-grounds	May show retinitis	Never retinitis
Uremia	May occur	Never occurs
Edema	Variable	Maximal
Hematuria	Always	None
Nitrogen retention	May be marked	None
Blood proteins	Normal	Low: increased fibrinogen
Serum surface-tension	Normal	Low
Phthalein test	Low	Normal
Mode of death	Uremia	Intercurrent infection
Response to high-protein diet	Symptoms aggravated	Good

GLOMERULAR NEPHRITIS

The cardinal symptoms of this disease are hematuria, elevated blood pressure and a tendency to uremia and to edema.

ETIOLOGY.—This disease is in all likelihood due to infection with the hemolytic streptococcus, most frequently in the respiratory tract (Table 2). In our series, 62% of the patients were boys. The age incidence is greatest at the period when children are most liable to be exposed to infection, corresponding well with the age incidence of scarlet fever (Table 3). The interval between the onset of the infection and the onset of symptoms of nephritis is well illustrated by the series of 5 cases associated with mastoiditis: nephritis developed 7 to 14 days from the onset of otitis media, and 2 to 3 days from the onset of mastoiditis. One of these cases succumbed to septicemia. In the other four, hematuria

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

ceased within a week following operation. The relation of infection to exacerbation of symptoms is well shown in a protracted case which followed streptococcic bronchitis, each recurrence of fever being associated with hematuria and higher blood pressure. The patient finally recovered. High-protein diet is not a cause of nephritis in children, but when nephritis already exists, the symptoms are aggravated by anything which increases protein breakdown in the body. This includes high-protein diet, muscular exertion, chilling, or any type of infection.

SYSTEMIC PATHOLOGY IN GLOMERULAR NEPHRITIS.—The essential change is a widespread injury of the capillaries. This may very readily be seen by viewing the capillaries at the base of the finger nail. Compared with the normal, the vessels are more numerous and more tortuous, show segmentation due to spasm, may be branched, and may exhibit aneurysmal dilatation. The arterial limb is often much narrower than normal, and the venous limb much wider. Like changes are seen in vasomotor neuroses

TABLE 2

INFECTIONS IN ETIOLOGY OF GLOMERULAR NEPHRITIS

Chronic upper-respiratory infections	33
Chronic sinus infections	4
Scarlet fever	26
Acute upper-respiratory infections	12
Acute mastoiditis	5
Pneumonia	10
Diphtheria	4
Osteomyelitis of jaw	1
Influenza	1
Erysipelas	1
Congenital defects causing obstruction	2
No infection localized	3

without nephritis. But in nephritis one can observe, from day to day, progressive and regressive changes. It is likely that these changes are associated with hypertension, and, occurring in the brain, may be the cause of eclampsia.

RENAL PATHOLOGY IN GLOMERULAR NEPHRITIS may be confined to the glomeruli, practically all of which are affected in cases ending in death from uremia. Retention of waste products is due to renal involvement.

SYMPTOMS may occur somewhat independently of each other. There is, however, no advantage in attempting to distinguish many types of glomerular nephritis.

Edema is usually the first significant symptom, but retention of water may be so slight that only the scales or the observation of the urinary output will indicate it. Occasionally, anasarca may be so extreme as to demand heroic treatment, such as the tapping of serous cavities. Altered water balance in the tissues is indicated by the increased speed of absorption of intradermally injected salt solution, and by the decrease of sensible perspiration. The latter factor seriously limits the usefulness of sweat-baths.

Circulatory disturbances include the capillary changes already mentioned, hypertension, cardiac hypertrophy, myocardial changes, and hem-

TABLE 3

AGE AT ONSET OF GLOMERULAR NEPHRITIS IN 102 CASES

Years	*Cases*	*Years*	*Cases*
0-1	3	7-9	14
1-3	3	9-11	12
3-5	19	11-13	13
5-7	25	13-15	13

orrhages into the skin and in the fundus oculi. The blood pressure in children, as given by H. K. Faber (Table 4), may be calculated by the formula, B.P. $= 90 + 2 \times$ (age in years $- 4$). Very often, hypertension occurs early in nephritis and is transient. In such cases, 130-140 mm. of pressure are common, over 170, rare. Continuously rising blood pressure, even if no great elevation occurs, is a very ominous sign.

Petechial hemorrhages in the skin are frequent in the more severe cases. Such purpura is caused by weakness of the vascular walls and is not associated with low platelet count.

Albuminuric retinitis, in our series of cases, was associated with other evidence of vascular injury. Although it sometimes occurred without retention of nitrogen, it did not occur without hypertension.

Retention of waste nitrogen is the rule. One of the most important guides as to the progress of a severe case of nephritis is furnished by the determination of the non-protein nitrogen. There is no necessary correlation between blood pressure and nitrogen retention. Cases with very marked retention (N.P.N. up to 200) may not appear particularly sick, may have no symptoms of uremia, and may recover rapidly and com-

TABLE 4

SYSTOLIC BLOOD PRESSURE IN CHILDREN
(After Faber)

Age	*Mm. Mercury*	*Age*	*Mm. Mercury*
4	89	10	102
5	92	11	104
6	95	12	106
7	97	13	108
8	99	14	110
9	101	15	112

Blood pressure $= 90 + 2 \times$ [Age $- 4$]

pletely. Uremia, however, frequently supervenes when the N. P. N. approaches 100, but is not necessarily a bad prognostic sign when it occurs early in nephritis.

Anemia is frequent. In severe cases, transfusions of blood may have suprisingly little effect

in raising the red-cell count. In some of our protracted cases, anemia was probably due to a faulty diet.

Malnutrition is usual, although often masked by edema.

PROGNOSIS.—The duration of cases of nephritis which recovered was lengthened by the presence of foci of chronic infection, which may have existed long before the attack (Table 5). Here we record only the time until the permanent disappearance of hematuria. Albuminuria persists much longer. It is, however, very difficult to predict the course of nephritis in any individual case, unless due obviously to an infection which can be eradicated by surgical measures. Whether or not nephritis of long duration will recover completely, depends upon two factors: (1) the extent of the glomerular involvement, and (2) the general vascular injury, both renal and extrarenal. Probably a process purely glomerular is compatible with clinical recovery, even when considerable reduc-

TABLE 5

DURATION OF GLOMERULAR NEPHRITIS IN CASES RECOVERING

Weeks	*Acute Infections*	*Chronic Infections*
0-1	7	0
1-2	11	1
2-3	3	0
3-4	3	0
4-6	8	11
6-8	0	1
8-12	2	11
12-24	0	9
24-48	0	1

tion in renal tissue occurs, if the causative infection subsides. If the focus of infection remains active, affecting more and more glomeruli, and causing interstitial changes, the nephritis steadily advances, and permanent hypertension and arterial thickening result. Even at this stage, the process may become slower and we see an arrest of bodily growth—renal infantilism—and a limitation of kidney function. Usually, however, the stage of permanent hypertension is followed by progressive and fairly rapid loss of renal function. Such cases present the picture of emaciation, anemia, petechial hemorrhages, headaches, vomiting, and loss of vision. One such patient at first was thought to have brain tumor.

The mortality in our series of cases seems rather high, because, in the hospital, we usually receive all the more severe cases. Age has a decided effect upon mortality (Table 6), and the younger the patient, the more rapid is the fatal outcome. In 21 cases, the causes of death were as follows: uremia 10, pneumonia 4, sepsis 4, cardiac failure 2, pertussis 1. In judging the progress of a case of glomerular nephritis, we have found that the most important points are: general appearance of case as a whole; hematuria; blood pressure; and non-protein nitrogen of the blood. Although renal functional tests, including the phthalein test and the tests for renal concentrating ability, have always been

TABLE 6

MORTALITY IN GLOMERULAR NEPHRITIS

Age at Onset	*No. of Cases*	*Deaths*
0-1	3	3
1-3	3	2
3-5	19	0
5-7	25	4
7-9	14	4
9-11	12	2
11-13	13	2
13-15	13	3
Total	102	20

done where possible, we have felt that under ordinary ward conditions, sufficiently reliable additional data cannot be secured to justify recommending these methods. It must be emphasized that the best judgment always rests upon a consideration of the whole clinical and laboratory picture.

TREATMENT.—If infection plays the important rôle which we believe it does in nephritis, eradication of the infection is indicated. In glomerular nephritis, the infection is usually an acute self-limited streptococcic infection. When it subsides, the patient recovers, often in spite of the treatment. When chronic focal infection exists, the question of operation naturally arises. We have not seen any case cured by nasal-sinus operations, but have seen benefit following removal of infected tonsils and teeth.

If nephritis is regarded as a general systemic disorder, it becomes necessary not only to attempt to relieve the strain upon a diseased kidney, but also to adopt conservative measures towards the entire organism. Since 1919, we have discontinued purgation and hot packs, have paid

TABLE 7

EFFECT OF BAKING AND PURGATION IN GLOMERULAR NEPHRITIS

	No. of Cases	*Av. Duration*	*Mortality*
Baking and purgation	25	9.0 weeks	28%
No baking or purgation	58	5.4 "	20%

attention to infection, and have used diets considerably richer in protein and calories than before. The results are, of course, difficult to appraise in such a small series of cases (Table 7). As guides to the increasing of diet and of muscular activity, we consider temperature,

hematuria, blood pressure, and non-protein nitrogen. Until the patient has been observed for twenty-four hours, a milk diet is given. Water is limited only in acute anuria and extreme anasarca. If the case appears to be mild, the diet is rapidly increased by giving proteins of animal origin (eggs) and calories (as cream, ice cream, cereals with sugar, bread and corn syrup, and fruit juices) until the child is receiving about 1 to 2 gms. of protein and 60 or 70 calories per kg. of body weight. Vegetables as the chief source of protein are not advised, because their proteins are not as suitable for replacement of body protein. As soon as hematuria has ceased, we have found no harmful effect from meat once a day. If the case is severe, the milk is supplemented only by carbohydrate and fat.

Persistent hematuria, in the absence of serious symptoms is frequently benefited by one or two "sugar days." During this time, the ordinary diet is discontinued, and the patient is encouraged to drink as much as he wishes of a mixture consisting of 10 gm. of cane sugar per kg. of body weight, dissolved in 1 or 1½ liters of fruit juice. This procedure does not relieve hematuria when the patient has fever. Another measure which sometimes reduces hematuria is alkalinization of the urine by means of bicarbonate of soda. The urine must always be tested with litmus paper. The treatment is not without danger. Nephritis patients can eliminate alkali often only with difficulty. We have seen four patients develop alkalosis with convulsions, during which one patient died.

In severe cases, more active treatment is necessary. Purgation and sweating often fail, and frequently do obvious harm. The purin diuretics have not been of value. Intravenous injections of hypertonic glucose (20%) have, in certain cases, been followed by diuresis. In others, the slow intravenous injection of magnesium sulphate, 0.2 gm. per kg. of body weight in 2% solution, has had remarkable results in lowering blood pressure and promoting sweating and diuresis. In case the kidney is already greatly damaged, the effects of these measures are transient. In certain cases of uremia with painful muscular cramps, magnesium sulphate as recommended above is a great help. In severe cases with anemia, transfusion is of temporary benefit (4 cases in 5). The injected blood, however, has been very rapidly destroyed in several of our cases. Edebol's operation (decapsulation of the kidney) has been of little help to us, perhaps because it was employed too late.

Tubular Nephritis

We confine our attention to that group of cases characterized by marked edema and albuminuria, without hematuria, hypertension or uremia. This type is often referred to as parenchymatous nephritis, or nephrosis. It is the commonest type of tubular nephritis seen in children, and corresponds in our table (8) to those cases associated with infection of the nasal sinuses or of the pleura with staphylococcus.

Table 8

Infection as cause of tubular nephritis

	No. of Cases	*Died*
Nasal sinusitis	13	5
Unknown	4	1
Probably sinusitis	4	1
Diphtheria	3	1
Burn, infected	1	1
Empyema (Staph.)	1	1
Amyloid disease	1	2
Influenza	1	1

Etiology.—Sinus infection in children is not usually a painful local manifestation, but must be searched for with adequate direct illumination. All of our cases in which the proper technic was employed (since 1921) showed such an infection and showed a very close association between activity of the infection and symptoms. Septicemia was not demonstrated. Presumably toxic substances are absorbed in the focus of infection, which affect the kidney *and* the body as a whole.

Pathogenesis.—As yet we have no complete explanation of the cause of edema in nephrosis. It is believed that the kidney alone is not responsible for the edema, because: cases occur similar in all other respects to nephrosis, but without albuminuria; other types of tubular nephritis are not associated with edema; and nephrectomy does not cause edema in mammals. The disorder, therefore, seems to be a disturbance of equilibrium between the tissues and the body fluids. It seemed profitable to apply to this problem certain physicochemical methods. As a result, it was found that the water-binding power of the blood was remarkably low, owing to its low protein content. Since, however, dogs whose blood proteins have been reduced even lower by bleeding, do not develop edema, a search was made for other changes. A significant finding is that of a peculiar substance which lowers the surface tension of blood and of urine, and which causes collodion membranes to become permeable to protein. We are engaged in a further study of the relationship of this substance to the production of edema. We find a correlation of the lowering of the serum surface-tension with the intensity of the albuminuria. In such cases, the blood protein falls and edema appears when less than 5% of plasma protein is present with low surface tension. Other features of nephrosis

suggest a widespread systemic disorder, such as: frequent lipemia, invariable hypercholesterolemia, alterations in the relative proportions of the plasma proteins with invariably high fibrinogen and the retention for very long periods of time in the blood stream of acacia which has been injected intravenously.

SYMPTOMS.—Next in importance to the cardinal symptoms, we find an increased susceptibility to infection of all sorts. Obviously, a vicious circle exists. These patients frequently succumb to an intercurrent streptococcic infection. Pyuria is always present; alkalies given for the treatment of this condition often produce alkalosis. In seven cases, very severe, cramplike, epigastric pain suggested the onset of some surgical condition. The cause, however, appears to vary, having been peritonitis in three patients, one with multiple acute gastric ulcers and sepsis; dysentery in two infants; and pneumonia in one older boy. Another patient had two attacks of abdominal pain of unknown nature. The liver is practically always enlarged.

Mental symptoms suggesting uremia are thought to be due to cerebral edema, and yield readily to the injection of hypertonic glucose solution or of magnesium sulphate or to diuretin, by mouth.

PROGNOSIS.—This disease, in our experience, is liable to affect younger children, among whom it may terminate in an intercurrent infection. Some cases recover spontaneously, notably during the warm, sunny weather. In other children, we may see mild forms recurrent for years. The best prospects for recovery are in those patients with sinus infection that yields to treatment.

TREATMENT.—The mistake is often made of limiting diet in these cases, as is necessary in glomerular nephritis. For this there is no reason, for there is no hematuria, no retention of nitrogenous waste, and no hypertension. Moreover, the susceptibility to infection, and the usual considerable emaciation (masked by edema?) require an adequate diet. We have made it a rule to give from 2.5 to 3.5 gms. of protein, and 60 to 80 calories per kg. of ideal weight (for age and height). Since the object is to replace lost animal protein, we give, by preference, milk, casein, eggs, salt-free cheese, and meat, rather than merely cereal or vegetable protein. As a source of carbohydrate, cereals, vegetables, fruit, and various sugars and syrups are available. There seems no reason for limiting seasoning material, excepting salt. Fluids in moderation are given. (Evidence for this treatment is presented in an article in the *American Journal of Diseases of Children*, xxix, 567; 1925.)

Drugs are of little avail. Purin diuretics (diuretin) may be useful, if infection subsides.

The most striking benefit is seen when the causative nasal sinusitis can be cured. This can occasionally be accomplished by means of irrigations of the nares with alkaline salt solutions (sodium chlorid ¾%, soda bicarb. ¾%). Instillations of mercurochrome, 1%, appear to have benefited one patient. Usually, however, operations are required, such as irrigation of the antra.

CONCLUSIONS

Nephritis in children must be considered as due to infection, resulting in a widespread systematic disorder. It is possible to distinguish clinically glomerular from tubular nephritis, and upon this distinction to base a more adequate therapy.

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SYMPOSIUM ON DIAGNOSIS OF SYPHILIS

THE PROBLEM OF SYPHILIS IN SURGICAL DIAGNOSIS*†

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The interference of syphilis with the smooth course of surgical diagnosis and treatment equals or outranks its vexatiousness in medicine and the specialities. To the conservative surgeon intent upon a minimum of operative interference in preference to a maximum of exploration, the disease must be an ever-present thought. Because in so many cases he must see through other eyes, must act upon the findings of other men, his must be a double vigilance if he is to elude the pitfalls which syphilis sets for the discomfiture of the hurried and incomplete examiner. If he acts upon a diagnosis made for him, he becomes dependent upon the index of suspicion of the physician who has appraised the case. While this index is rising steadily, it is as yet none too high. Pressure of work, bias, false social criteria and outright unfamiliarity with the astonishing range of clinical syphilis, keep us as medical men from seeing the handwriting on the wall in time to protect the surgeon from avoidable error. There is, moreover, that about the surgical viewpoint, with its intense application to technical detail, its dash, its emphasis on rapidity of decision, its confidence in the efficacy of operative method, which renders it peculiarly

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helpless before the problem of syphilis in general medicine—a problem seldom to be solved in a twinkling and usually unraveled, like that of finding the "pigskin" in a football scrimmage, only through the picking up of one player after another from the successive layers of the heap, until at the bottom one comes upon the ball round which the game centers.

But even though the surgeon is obliged to proxy his contacts with the diagnostic aspects of syphilis and to delegate to the internist that familiarity with its clinical rôle which is the only true protection from its ubiquity as a source of error, there are certain landmarks and first lines of defense which the surgeon may employ of his own initiative, if he be so minded.

From my observation of syphilis as a factor in surgical practice, I should name the following as the chief sources of avoidable error:

1. A low index of suspicion on the part of the surgeon himself.
2. Failure on his part to insist upon routine use of the blood Wassermann reaction in all patients who are to come to operation, regardless of age, sex, and social status.
3. Insufficient use of the blood Wassermann reaction in bone and joint lesions, including ununited fractures, in which it should form part of every medical or surgical examination before operation.
4. Insufficient attention to the pupillary and reflex signs of neurosyphilis which can be easily identified in a routine office examination.
5. Insufficient appreciation of the fact that the spinal-fluid examination followed by treatment for syphilis may render totally unnecessary a proposed operative treatment for a number of abdominal complaints.
6. The tendency to consider that a negative blood Wassermann reaction assures the absence of syphilis, when in reality both blood and spinal fluid may be negative in the presence of the two famous surgical pitfalls of gastric crisis and Charcot joint.
7. The tendency to consider syphilis, as indicated by a positive blood Wassermann reaction, a sufficient explanation of all symptoms and signs.
8. Unfamiliarity with the stigmas of heredosyphilis.
9. Unfamiliarity with gumma of the lymph nodes.
10. Unfamiliarity with the masquerade of syphilis as surgical tuberculosis.
11. Unfamiliarity with the mimicry of gall-bladder disease by syphilis.
12. The tendency to rely unqualifiedly upon the pathologist to differentiate syphilis from tuberculosis and sarcoma by tissue examination.

THE SURGEON'S INDEX OF SUSPICION.—"Index of suspicion" is a coined term to suggest the degree of alertness towards syphilis as a disease. To the syphilologist, of course, the surgeon's alertness seems perhaps abnormally low, while the surgeon responds by defining a syphilologist as one who calls everything syphilis. The index of suspicion of a group of medical men can in general be raised by leading them to develop special susceptibilities for particular items in the symptomatology of the disease. Thus, for the surgeon, the history of miscarriage, bone sequestrum, refusal to heal, involvement of the shoulder girdle and the tibia, infiltration of a scar, peripheral "cart-wheel" extension of an incised mass, multiple ulceration of the gastric mucosa, coincident destructive cutaneous lesions, may all serve as suspicion arousers and lead to a fuller study of the case.

An attempt at statistical study of this problem was made by Goeckerman, who found on a survey of 5,000 cases that when a diagnostic situation presented a surgical aspect, only 0.5 per cent of the patients were found to have syphilis, whereas the expectancy of syphilis as detected by internists and syphilologists in the same material was in reality 4.5 per cent. In a large proportion of the surgical cases, syphilis apparently had not been considered in the examination, even to the extent of a blood Wassermann test. Upon presentation of the diagnostic importance of the situation to the surgical staff of the Mayo Clinic, a rule was adopted to the effect that all patients whose condition presented an actual or potential operative phase should have routine blood Wassermann tests, as part of their general examination before operation.

THE ROUTINE BLOOD WASSERMANN REACTION.—For some years I was a frank opponent of the routine blood Wassermann reaction in the every-day diagnosis of syphilis. I felt that such a use of the test weakened clinical insight which is the court of last resort. As I have watched, however, the diagnostic mimicry of syphilis and better realized how difficult clinical differentiation must sometimes be, I have been more disposed to urge the systematic and invariable employment of the test as part of every medical examination. I have been further stimulated to this point of view by witnessing the vanishing of the clinical lesions of syphilis. Modern treatment, even though inadequate, disposes of the old-time external landmarks of the disease with such rapidity and completeness that the clinician is now left without the guides which directed his course towards its recognition in the past. So unaccustomed have we become to the identification of the clinical landmarks of late syphilis that a patient with an enlargement of the sternal end of the right clavicle recognized as syphilitic on sight by Nicholas Senn more than thirty years ago, could pass through the hands of two keen observers, one of whom completely overlooked the lesion, the other attributing it to fracture of the collar bone. Pre-Wassermann diagnosis in this instance, and by a surgeon to boot, surpassed the clinical diagnosis

of the Wassermann era at the hands of two capable internists.

I feel no hesitation, then, on the basis of my experience, in urging upon every surgeon, as a protection for his patient and himself, the routine use of the blood Wassermann test on every patient who is to come to operation irrespective of the medical and social aspects of the case. I do not say that a positive result proves the surgical lesion under consideration to be syphilitic, but it at least makes possible the detection of a syphilitic factor and the complete consideration of the case from all angles without the risks of exploration. In osseous syphilis, the proportion of surgical error in a series under my observation (200 cases) reached 21 per cent, largely from neglect of the Wassermann test. While the test was positive in 82 per cent, in only 24 per cent of the cases had it been employed by the physician who first saw the case.

The Pupillary and Reflex Signs of Neurosyphilis.—Failure to observe the behavior of the pupils and deep reflexes is one of the commonest failings in the average medical examination. The key to more than one "gallstone colic" or "urethral stricture" lies in unequal or retarded pupillary reactions. Neurosyphilis outranks all other aspects of the disease as a symptom producer. In fact, it might be said with truth that tabes alone spreads a panorama so broad as to make it literally the syphilis of general medical diagnosis. Nuzum's extraordinarily interesting study of tabes as a source of error in surgical diagnosis (1916) almost deserves republication. Following is his table of the sources of error in 1,000 cases:

Useless Surgical Operations in 1,000 Cases of Tabes Dorsalis *(After Nuzum)*

Surgical Diagnosis	*No. of Operations*
Gastric ulcer	19
Gall stones or cholecystitis	19
Appendicitis	18
Salpingitis	13
Exploratory laparotomy	9
Renal calculi	7
Postoperative adhesions	7
Tumor of cauda equina	1
Sciatica (nerve stretching)	1
Meningocele	1
Ectopic gestation	1
Peritonitis	1
	97

My emphasis on pupillary and reflex signs is the product of experience with syphilis in railroad men, among whom these signs were present in more than 70 per cent of patients with unrecognized aspects of the disease, many of them with a surgical bearing. In urging that the surgeon himself and the medical men with whom he works study pupillary reflexes and knee jerks, and inquire for lightning pains, difficult urination, and early ataxia, I am proposing the only protection available against the negative blood Wassermann reaction in those forms of neurosyphilis which have a positive spinal fluid and those in which both the fluid and the blood are negative. The "picking up" of a tabes in the anesthetizing room by an alert surgical assistant about to administer an anesthetic is a dramatic and highly significant moment.

The spinal-fluid examination is one of the surgeon's best friends. In a study of "stomach trouble," a term under which 200 syphilitic patients lumped a surprising collection of operable complaints, Brown and I found that 60 per cent had positive spinal fluids, while the blood Wassermann test was positive in only 45 per cent, the neurological examination in 22 per cent and the x-ray examination showed abnormalities in only 16 per cent. More than 70 per cent of these patients with "stomach trouble" as a symptom of neurosyphilis made complete recoveries under properly directed treatment for syphilis. A number of them (17.5 per cent) had sustained unnecessary explorations in various parts of the country, with negative results. Very few of them could have been classified as frank tabetics, and fewer still had gastric crises. They represented that large field of clinically unrecognized neurosyphilis which is responsible for deceptive medical symptoms and whose recognition depends exclusively upon laboratory tests. The surgeon could to advantage insist upon the spinal-fluid examination in addition to the blood Wassermann test in more patients with indefinite upper-abdominal complaints before he proceeds to a purely exploratory operation. Visceroptoses, kinks, "Dietl's crises," "low livers," "relaxed ligaments," and even "chronic appendices" and "cholecystitis with stones" are too frequently the cloaks for neurosyphilis in surgical practice, as "gastric neurosis" and "overwork" are in medical practice.

The Negative Blood Wassermann Reaction and Negative Spinal-Fluid Examination in Surgical Conditions. — The investigations of recent years made possible by the extended application of the spinal-fluid examination to diagnosis have shown that as high as 50 per cent of patients with gastric crises may be expected to have only neurologic signs to confirm the diagnosis. The serologic findings will be completely negative. The gastric crisis, the Charcot joint, the trophic ulcer of the foot *(mal perforans)*, the isolated gumma of the brain or meninges, the fibrous gumma of the spinal-

cord dura, show a special tendency to serologic negativity. In all these cases, each with its important surgical aspect, only thoroughness in clinical examination will prevent error. The knowledge that error is easily possible will lead the surgeon to insist upon the painstaking work-up of all such cases.

To what extent is the negative blood Wassermann reaction a factor in diagnostic error in other potentially surgical phases of syphilis? From a series of surveys aggregating more than a thousand cases, I should say that in latent and late syphilis of the nervous system the proportion of blood Wassermann negativity ranges from 30 to 50 per cent; in syphilis of the bones, 18 per cent; in syphilis of the stomach, 7.5 per cent; and in syphilis of the liver, 10 per cent. While some of these margins seem small, it is remarkable how much misinterpretation can take place through them.

Minimizing the Positive Wassermann.—The tendency to ignore or minimize the positive blood Wassermann reaction is one to which surgeons fall easy victims. A number of years' observation of surgical findings and results, especially in ill-defined abdominal complexes, has led me to say almost categorically that unless an indubitable diagnosis of a non-syphilitic condition can be made, or a strong presumption of operable malignancy exists, operation is best deferred in favor of a therapeutic test if the patient's blood Wassermann is positive. The extremely serious matter of ignoring treatable neurosyphilis and cardiovascular syphilis by neglecting to investigate positive blood Wassermann reactions discovered incidentally in their patients is an error to which surgeons are altogether too prone. Patients with supposed thyrotoxic mental disturbance may undergo thyroidectomy, when in reality they presented the early symptoms of paresis. A patient with backache is given a sacro-iliac belt for the taboparetic neurosyphilis which is later identified after a diagnosis of heat stroke has been made by a surgeon when the patient sustains his first apoplectiform shock. An epithelioma of the lip is excised, the positive Wassermann forgotten, and four years later the patient has an aneurysm. The labial chancre is excised as epithelioma; the digital chancre is incised as felon or amputated as sarcoma. The gumma of the liver is brought into view through the exploratory incision more frequently than its rôle as a prompter to surgical humility really demands. First, last, and always, the surgeon can afford to lend his keenest ear when the Wassermann speaks of the spirochete.

Such comments as these can hardly assist in the production of a group of hypersuspicious surgeons. Yet patients have been withheld from potentially curative operation for gastric carcinoma because the syphilis-conscious surgeon feared the reflection on his judgment which the therapeutic test in the presence of a positive Wassermann might yield. Epithelioma of the tongue seems to be a more frequent source of error in the hands of the practitioner, and patients are treated for supposed gumma of the tongue or lip when timely operative intervention, disregarding the positive Wassermann reaction or at least holding it for secondary consideration, might have saved the situation. I do feel, however, that these errors are still less common than are those of erroneously underestimating the positive blood Wassermann test.

The Stigmata of Heredosyphilis.—The stigmata of heredosyphilis are among the most valuable guides to operability available to the orthopedist and the otolaryngologist. The latter group in particular has learned the lesson of not invading osseous tissue in the presence of the positive blood Wassermann reaction. If now they will turn to the recognition of Hutchinsonian teeth; if they will strip patients of their clothes and look at their bodies, or insist on competent general examination before extensive nasal and nasopharyngeal operations, they will, without doubt, find the innovation worth while. In a study of more than a hundred tonsillectomies performed before and after treatment in heredosyphilitic subjects, the incidence of gummatous postoperative cicatricial damage to the tonsillar pillars and the nasopharynx was found to aggregate 20 per cent of all cases submitted to operation before treatment. In those who were treated for syphilis before operation, the incidence of such unfortunate and deforming complications was nil. It now goes almost without saying that the Wassermann-positive patient with a damaged nasal septum should have treatment before operative restoration is attempted. The correction of nasal cosmetic defects in patients with heredosyphilis who are coincidently Wassermann-negative deserves, however, a fuller study from the standpoint of gummatous breakdown and unfavorable results.

The general surgeon and the orthopedist can profitably cultivate a greater alertness for the saber shin. Too many patients with tardive heredosyphilis in their twenties bear the scars of needless bone scrapings for supposed infectious osteomyelitis, in reality of syphilitic origin, in their early childhood. The response of such lesions to modern treatment for syphilis is so satisfying that it is relatively rare for surgical intervention to be necessary. If the orthopedist will look at shins before he puts on casts, and

will palpate them routinely for fusiform thickening between the thumb and index finger of the right hand as with his left he beckons the assistant to draw blood for a Wassermann, we shall see a pleasing decrease in the incidence of diagnostic error in this field.

SYPHILIS AND SURGICAL TUBERCULOSIS; GUMMA OF THE LYMPH NODES.—The masquerade of syphilis as tuberculosis is one of the most complete and effective illustrations of mimicry in the whole field of medicine. In no aspect is it more perfect than in the simulation of tuberculous lymphadenitis by the lymphadenitis of late syphilis. This is especially conspicuous in the cervical region, where I have seen repeated operations and excisions practiced in the effort to stop a series of recurrences that could be explained only by the strongly positive blood Wassermann reaction taken as an afterthought. In the surveys of visceral syphilis which I have been able to make during the past several years, it has interested me greatly to notice the frequency with which enlarged lymph nodes are associated with syphilitic lesions of the stomach, of the liver and gall bladder, and even of the rectum and rectosigmoid. In these situations they give occasionally the clinical impression of malignancy, fortunately corrected by the pathologist's examination. Every physician should study resistant tuberculous adenitis from the standpoint of syphilis, and employ the Wassermann reaction routinely in all such cases. I add, however, an emphatic caution that weak positives not infrequently accompany tuberculosis, and cannot be accepted unchecked.

As a dermatologist, I can vouch for the general applicability of the following case history to the extremely difficult differentiation of syphilis and tuberculosis of the skin. As an observer of orthopedic practice, I can agree with Dunlap that no bone or joint lesion can be adequately studied without the blood Wassermann test.

A SIX-YEAR MASQUERADE OF SYPHILIS AS SURGICAL TUBERCULOSIS

The patient was a woman, aged 30, married, with three living children and a history of one miscarriage. Later questioning elicited one premature birth, the child dying in three weeks.

The complaint was "boils, stiff neck, scrofula." There had been pain in the hip six years ago, especially nocturnal, and worse when at rest.

The patient had been treated for four months for rheumatism, when she grew worse and a consultation was called. A "boil" on the hip was opened, the bone scraped, and she was told it was tuberculous. The opened lesion refused to heal, and bone was removed at two more operations. The lesion was worse for a time and finally healed. There was no ankylosis or stiffness of the joint. She developed a "boil" on the left shoulder last winter. This was lanced but did not heal properly, and she was still having trouble. Four years ago "boils" had appeared on the neck. These were opened by physicians and kept open, and the patient was told she had "scrofula." Painful lumps and stiffness were still present after three operations on the neck. The patient had coughed a good deal for six years, especially during the past nine months. No night sweats or hemoptysis. Weight loss, nine pounds.

The first examiner reported: "Left shoulder posterior, number of indurated lumps, scars from incision of old boils." The otolaryngologist advised removal of tonsils and application of x-ray to glands and induration in neck. Medical advice, after a negative x-ray of the chest, was the same. The blood Wassermann report was strongly positive, and remained the same on a second examination.

Complete recovery took place under treatment for syphilis.

"Boils" and "carbuncles," together with sarcoma and tuberculoma, are common misinterpretations of the gumma. In this case, it is of interest to note that the eldest child has heredosyphilis.

THE MIMICRY OF GALL-BLADDER DISEASE.—Eighteen months ago, as part of a study of the diagnostic problem of the hepatosplenic complex, I surveyed 74 cases of syphilis of the liver representing an eight-year experience. There is scarcely a single aspect of internal medicine in which syphilis offers the surgeon and the internist more opportunities for diagnostic missteps than in this particular field. There was no difficuty in isolating six distinct types of cases in which syphilis had perfectly mimicked every aspect of gall-bladder disease. These included the typical gall-bladder history, with distribution of pain indistinguishable from that of cholecystitis. Onset followed exertion, and was characterized by fever, right subcostal pain, reference to the right subscapular region, gastro-intestinal symptoms, hypodermic relief, and periodicity. On exploration, nothing but hepatic gumma, syphilitic cirrhosis, and perihepatitis appeared. Hepatic gummata pressing upon the gall bladder and the hepatic, cystic, or common ducts; pseudo gall bladders formed by pedicled gummata; perihepatitis with multiple adhesions, with and without coincident gall stones; syphilitic cirrhosis, and syphilitic perihepatitis all were indistinguishable from cholecystitis by history or physical examination. Multiple hepatic gummata were mistaken for metastases from a malignant gall bladder, and the patient placed on x-ray treatment for several years before a Wassermann test was finally made.

The confusion of the syphilitic liver and spleen with displaced and pathologic kidneys, with retroperitoneal sarcoma, and with pancreatic or mesenteric tumors and cysts is easily possible.

It is unfair to lay upon the surgeon or the internist a load of criticism for such mistakes. They are the product of a poorly understood syphilology. Most of them arose from failure to employ routinely, the blood Wassermann reaction, or to heed its warning. If in the field of visceral syphilis the surgeon would uniformly protect himself and his patient by this most essential diagnostic aid, an important factor of error would be summarily removed.

PATHOLOGIC DIFFERENTIATION OF TUBERCULOSIS AND SARCOMA.—An experience of some ten years has enabled me to accumulate a number of cases illustrative of the fallibility of pathologic diagnosis in the field of tuberculosis of the mucous membranes and sarcoma in bones. Syphilis and tuberculosis of the tongue and nasopharynx cannot at times be distinguished from each other even by skilled pathologists employing fixed sections in diagnosis. Even a therapeutic test at times seems to fail in the differentiation of these cases. Arsphenamin cannot be relied upon to distinguish the two processes with certainty in this particular situation, for its nonspecific effects are too pronounced. The diagnosis of round-cell sarcoma is sometimes made by competent pathologists on the tissue excised from early gummata of bony origin. Here again the chief protection of the surgeon must be the blood Wassermann test and, in the case of bone lesions, the findings of the roentgenologist. At times, the decision is so difficult as to call for every diagnostic and consultant resource. If the surgeon will only stop to think how serious it is to remove the leg of a child for a mere syphilitic osteitis, at the same moment that he realizes the seriousness of leaving it on if the lesion is sarcomatous, he will at least thrash the problem of syphilis out to a conclusion more often than he has in the past.

Time and space limitation prevent the discussion of a very interesting development of recent years—the recognition of syphilitic peptic ulcer. If the surgeon and the internist will combine to subject to preoperative treatment for syphilis all patients with typical gastric ulcer who have positive blood Wassermann reactions, we shall see a distinct expansion of the hitherto relatively restricted field of true syphilis of the stomach and some slight diminution of the gastro-enterostomized population. Syphilitic round ulcer of the stomach is a reality, though its frequency remains to be determined.

No discussion of syphilis as a surgical problem can justifiably assume the tone of an indictment, for the disease has deceived every one of us, syphilologists included. I have often asked myself what it is that gives syphilology its peculiar fascination. Surely it is the stimulus and exultation of the chase, the hunt for a supremely clever and adaptive enemy, which, like death, *"aequo pulsat pede pauperum tabernas regumque turres."* Among the manifold problems which beset our surgical brother, problems which he meets so often with distinguished skill and éclat, syphilis will never fail to claim its always disconcerting and unexpected place. We, as syphilologists, in all humility and appreciation do but suggest to him an attitude of mind and a not-too-difficult diagnostic prophylaxis against the traditional mortification of finding treatable syphilis mocking him from the operative wound.

SOME IMPORTANT LANDMARKS IN LATE CONGENITAL AND ACQUIRED SYPHILIS*

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Establishment of an absolute diagnosis is of utmost importance when dealing with a disease of such grave importance as syphilis. Considering the present-day conception of syphilis as a social disease, especially by the laity, one cannot be too certain of his diagnosis before imposing on his patient the sentence of being a syphilitic. The necessity of a long-drawn-out course of treatment, incurring its high element of expense (which in many cases means family hardships) and resultant unpleasant marital relations often leading to separation and divorce, and the ineligibility to marriage in single patients until five years have elapsed after adequate treatment to insure a permanent cure, makes syphilis a serious problem, socially and economically.

The course of syphilis can clinically be divided into three fairly distinct stages: (1) the primary stage, including the incubation period and the development of the inoculation lesion or chancre; (2) the secondary, or constitutional-reaction stage, including the skin manifestations and constitutional symptoms of a systemic intoxication; (3) the tertiary stage, or the period of late syphilis. It is in this period of the disease that one encounters the serious accidents of syphilis. The tertiary stage is one of gummatous formation or the development of granulomatous deposits. Their appearance is possible at any time in the life of the syphilitic patient during

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or subsequent to the secondary stage. They occur most abundantly, however, during the first decade of the disease. The tertiary lesions, being granulomatous in character, are destructive and cause irreparable damage to tissues involved. The risk to life is serious when the lesions involve vital organs or when they occur in the cardiovascular, renal, or central nervous systems. The lesions of late syphilis as a rule occur as local foci and not as a generalized eruption. Tertiary syphilis, however, is a polysymptomatic rather than a monosymptomatic disease. The gummatous or granulomatous foci may involve a single structure or system in various places, or various systems may be involved at the same time. It is not unusual to find a simple gumma of the skin, and at the same time a more serious invasion of some vital system or organ. No structure of the individual is immune to invasion, as gummata may occur in the bones or periosteum, muscles, skin, brain, lungs, liver, kidneys, heart, testes, stomach, etc. As the pathology of syphilis is essentially a vascular phenomenon, various changes are produced in the cardiovascular system, or structural changes may occur as a result of circulatory impairment.

It is not the purpose of this paper to point out all the salient features of lues in all its manifestations, but rather to dwell on certain basic physical characteristics of the disease which will aid in making a clinical rather than a serological diagnosis.

LATENT CUTANEOUS SYPHILIS

Although syphilis in the tertiary stage presents several different forms, dependent upon their location, degree of infiltration, size, arrangement, number, and clinical course, there are certain basic physical characteristics applicable to all types of lesions. These characteristics are:

(1) Solitary character of lesions, or at least the presence of a few lesions or groups of lesions.

(2) Asymmetry. As a rule tertiary cutaneous syphilids are unilateral in distribution, but occasionally symmetrical ones are present.

(3) A deep palpable infiltration, which makes the lesion feel firm and resistant to touch or palpation.

(4) Indolent character of lesions. The progress is relatively slow and that of a low-grade inflammatory reaction, often requiring months or even years before reaching any marked degree of destruction.

(5) Arciform configuration. The borders of all cutaneous lesions have a tendency to form circles or segments of circles. When individual lesions coalesce to form a single larger lesion, they arrange themselves in this same crescent or horseshoe shape, presenting a scalloped border.

(6) Sharply marginated borders. It is from this sharp line of demarcation between the lesion and the normal skin that the ulcers are characterized as having a punched-out appearance.

(7) Destructive character of lesions. Since all tertiary lesions are gummatous or granulomatous in character, they naturally cause tissue destruction. The lesions all show a fairly early tendency to ulcer formation.

(8) Tendency to central or one-sided healing with peripheral extension. It is this so-called serpiginous ulceration which is characteristic if not pathognomonic of syphilis.

(9) Formation of superficial, thin, wrinkled, noncontractile scars. The tendency to atrophy or scarring is an important feature in the diagnosis of tertiary syphilitic skin lesions, even often occurring in nonulcerating infiltrations. The scarring is frequently so thin and pliable that it is thrown into fine wrinkles, giving it a cigarette-paperlike appearance, hence designated as cigarette-paper scarring. There is practically no tendency to contracture except possibly in the thicker scars resulting from a deep ulceration. The scars retain the arciform configuration of the former ulcerating lesions.

(10) Peripheral hyperpigmentation. There is usually considerable hyperpigmentation of both active lesions and scars which is persistent in character.

TYPES OF CUTANEOUS SYPHILIS

Tertiary syphilitic skin lesions, although essentially all gummatous in character, manifest themselves principally in three clinically distinguishable types: the gummatous, the nodulo-ulcerative or tubercular, and the squamous syphilodermata. These types of lesions differ chiefly in their position in the skin, their number, their location and distribution on the body, and their clinical course. The gumma is essentially subcutaneous in character, beginning as a small nodule the size of a pea or bean, or slightly larger. It is slightly inflammatory, firm or elastic on palpation, and relatively painless. It increases in size rather rapidly, considering the indolent character of most syphilitic lesions, and may develop to the size of an egg or orange. There is an early tendency to ulceration. The borders are sharply marginated and only slightly inflammatory. The ulcer, as a rule, has a clean, punched-out appearance. The base is relatively clean; however there is usually a seropurulent

discharge. The gummata are most often singular in number, but when multiple, arrange themselves in arcs forming the arciform configuration so characteristic of syphilis.

The course of the gummata is relatively slow, but they ultimately undergo spontaneous resolution. The gummata occur most frequently upon the lower extremities, especially the upper two thirds of the leg. Other frequent locations are the scalp, forehead, arms, and occasionally the trunk. They may occur practically everywhere on the body. They are usually asymmetrical in distribution, often occurring on one leg or arm only, but this is not true in all cases.

The nodulo-ulcerative or tubercular syphilids are likewise gummatous in character, but differ from the solitary gummata in that they are more superficial, intra-cutaneous, multiple in character, and are less destructive. They occur as multiple, small, pea-sized infiltrations in the skin. They have a rounded or flattened surface, are rather firm, indurated, smooth, and are of a dark red or purplish color. They occur as irregular groups of lesions arranged in horseshoe or circular shape, sharply marginated, and they are practically painless. The course is slow, and while most lesions show a tendency to multiple superficial ulcers, some involute spontaneously without ulceration, leaving a thin atrophic hyperpigmented scar. The "patches" or groups of lesions often present multiple small ulcerations in the border, denoting peripheral spreading, while the center of the area presents scarring of former healed lesions. They may occur on any part of the body, but are most frequently found on the face, especially the nose, around the ears, over the forehead, across the shoulders, and the outer upper surface of the arms and thighs. Because of their frequent appearance on the nose and face and their nodular tubercular character, they are most often mistaken for cutaneous tuberculosis or cancer.

The squamous tertiary syphilids are essentially, according to Hazen, nodular lesions involving the thick squamous epithelium of the palms and soles. They consist of sharply marginated confluent plaques, involving usually only a portion of one palm or sole. Symmetrical lesions, however, do occur. They are of a deep red color and occasionally show slight ulceration.

Scaling of a circular adherent type and fissuring are common occurrences in palmar lesions. They are most often confused with palmar eczema or trichophytosis. Close examination, often showing atrophy, thinning with resultant increase in the normal lines of cleavage, asymmetry, resistance to treatment, and well-defined edges, should characterize them as being syphilitic. It has been our observation that the palmar syphilids respond to x-ray therapy almost as promptly as do many other nonspecific palmar lesions, but recur promptly upon cessation of treatment.

Rupial syphilids may be considered as late secondary or early tertiary lesions. They are characterized by their heaped-up laminated crusts which, due to their resemblance to oyster-shell crusts, are thus described. These characteristic crusts may form on a broken-down syphilitic nodule or on large flat pustular or bullous lesions. They occur early in the course of the disease, have a general distribution, a marked odor, and are associated with severe constitutional reactions.

SYPHILITIC SCARRING

As latent cutaneous syphilids present several characteristics practically pathognomonic of the disease, likewise syphilitic scarring is very often a valuable clue in the diagnosis of other types of late syphilis. As a rule, the scar is very thin and tissue-paperlike. The surface is smooth, soft, and pliable, and shows no tendency to contracture. The serpiginous or arciform borders so characteristic of the active lesions are features retained by syphilitic scarring. This scalloped border should make one at once suspicious of a preëxisting syphilis. When the lesions have been unusually deep and destructive, as in the larger gummata, the scars will usually be more thickened but in places still retain the more usual characteristics. The periphery often presents considerable hyperpigmentation which is persistent in character.

LATENT MUCOUS-MEMBRANE LESIONS

Tertiary syphilis of the mucous membrane most often manifests itself as gummata or as a diffuse infiltration. The gummata occur most frequently as solitary destructive lesions of the soft palate, hard palate, and posterior nasopharynx. They also occur as solitary lesions of the tongue. Objectively, the gummata are large inflammatory lesions, showing an early tendency to ulceration, with marked destruction and relatively few subjective symptoms considering the size of the lesion. As an interstitial form, it usually appears as a diffuse infiltration of the tongue with generalized thickening and atrophy with a resultant loss of papillæ, giving the tongue a smooth, glistening, bluish appearance. The question of syphilis as an etiological factor in the formation of leukoplakia is still unsettled.

SOME IMPORTANT SIGNS OF SYSTEMIC SYPHILIS

In this present age of laboratory diagnosis, there is a tendency to overemphasize serological

findings in the differential diagnosis of obscure lesions. Needless to say, a positive Wassermann reaction, when performed in a reliable laboratory, even in the absence of clinical signs, should, if verified by a second positive, be proof of the existence of a latent syphilis. However, even in the absence of a positive Wassermann test, there are certain diagnostic features, especially in cardiovascular, osseous, and neurosyphilis, which are almost pathognomonic of the disease and which should at least warrant treatment as a therapeutic test.

CARDIOVASCULAR SYPHILIS

Although syphilis is primarily vascular in character, gross lesions of the heart and aorta are seldom encountered during the first decade of the disease. An aortitis, with or without aneurysm formation, occurring in a patient under fifty years of age, should arouse a serious suspicion of syphilis.

It has been conservatively estimated that over 75% of all cases of aortic insufficiency are of syphilitic etiology. It is unfortunate that most cases of aortitis escape diagnosis until the process is far advanced. A patient presenting a presternal pain, dyspnea, palpitation, and tachycardia should undergo a rigid examination for early aortic involvement. All cases of aortitis, aortic aneurysm, and aortic regurgitation occurring in an adult with a negative rheumatic history should be seriously considered as syphilitic in etiology. Careful search should be made for other corroborating evidence of syphilis, and treatment as a therapeutic test should be instituted.

OSSEOUS SYPHILIS

There are no hard and fast rules which characterize osseous lesions as syphilitic rather than as nonspecific in character. Syphilis of the bone may manifest itself as a periostitis, an osteitis, or as a bone necrosis. The more superficial the bone, the more common is the syphilitic involvement. The tibia, nasal, palatal, and cranial structures are the most common sites affected. As in other types of syphilis, trauma is a very evident predisposing factor. Pain and tumefaction are two practically never-failing signs. The pains vary, but are often extensive and lancinating, and are usually nocturnal in character. Suppuration argues against rather than for osseous syphilis. The Charcot joint, involving principally the knees, ankles, or hips, characterized first as a painless swelling with resultant bony dissolution and the presence of lateral and anterior motion, is practically diagnostic of a preëxisting or active neurosyphilis.

SYPHILIS OF THE NERVOUS SYSTEM

Syphilis of the nervous system is characterized by certain vascular changes such as occur in syphilis of other structures. In addition to the vascular changes which may occur in the meninges or the brain proper, there often occur certain finer changes in the nerve cells. Neurosyphilis may be parenchymatous, vascular, or meningeal in character. Gummata may occur, as also peripheral nerve lesions and neuroses. Objective symptoms of importance are diplopia, diminution in hearing, vertigo, ataxia, dysarthria, incontinence or difficulty in voiding, sensory changes to heat or cold, and increase or decrease in sexual libido and potentia. Any one or more of these symptoms should at least suggest the possibility of cerebrospinal syphilis. Objectively, Argyll-Robertson pupils, although not absolutely diagnostic are very suggestive of syphilis.

Inequality and irregularity of pupils, ocular-muscle paralysis and optic-nerve changes, such as optic inflammation or atrophy, are almost pathognomonic. The stamping gait of tabes, the positive Romberg, muscle incoördination, together with reflex changes, especially increase or absence of the patellar, achilles, cremasteric, and abdominal reflexes are suggestive. Areas of hypo-and hyperesthesia, especially changes in heat and cold sensation, are most apt to be found in the legs. The "cord" bladder, with urinary incontinence and retention, together with trabeculæ formation, as revealed by cystoscopy, is evidence of lower cord involvement, usually of the tabetic type. The paretic can usually be spotted by his mental changes, convulsive seizures, speech defects, Argyll-Robertson pupils, abnormal knee reflexes, Romberg sign, ataxia, and changes in sensation.

Meningeal, vascular, and gummatous changes present symptoms in common with similar lesions of nonspecific origin. In all cases of suspected syphilis of the central nervous system, spinal-fluid analysis is imperative, both to determine the degree of activity of the syphilitic process and as a guide to future therapy.

CONGENITAL SYPHILIS

Since congenital syphilis is caused by an infection with the same organism, only the infection is in utero, one can readily understand why most of its manifestations are very similar to those of acquired syphilis. There are, however, certain developmental peculiarities and tardy manifestations which can be designated as stigmata, and which at once classifies the disease as hereditary rather than acquired. Aside from the early objective signs, such as respiratory difficulties (snuffles), undernourishment, an old,

wrinkled, wizened appearance, bullous and macular skin lesions, and enlarged liver and spleen, the principal landmarks of tardy congenital syphilis are as follows:

(1) Dental dystrophies. The condition manifests itself chiefly as a notching or pegging of the central incisors, and an irregular pulpy mass occupying most of the face of the crown of the molar teeth, designated as "mulberry molars."

(2) Interstitial keratitis. This condition manifests itself usually between the ages of 5 to 16 as a slight ciliary congestion followed by the appearance of cloudy patches which coalesce and cover the entire cornea. There is an ingrowth of fine vessels derived from the bordering ciliary capillaries.

(3) Nerve deafness. This is rather a late manifestation, developing usually between the ages of 8 to 18. The appearance of these three stigmata, known as the Hutchinsonian triad, is positive proof of congenital syphilis.

Other frequently encountered clinical manifestations are osseous changes, particularly thickening of the long bones, especially the tibiæ designated as "saber-shins," malformations of the skull, especially enlargement of the frontal bosses, and a high-arched palate. Dactylitis, enlarged epiphyses, and osseous gummata are other less frequent findings. The saddle nose, the result of a broken-down gumma frequently associated with a perforation of the hard palate, occurs most often in congenital syphilis, although occasionally it is encountered in the acquired form.

THE EARLY DIAGNOSIS OF SYPHILIS*

Clinical and Laboratory Methods

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It is generally conceded that the cure of syphilis in the primary stage, before the Wassermann reaction has become positive, can be assured by intensive treatment. Indeed, this result is obtained by less treatment than is required at any other period. In the secondary stage, after the Wassermann has become positive, cure, although possible, is less readily obtained.

The prognosis of syphilis, like that of cancer, is intimately concerned with early diagnosis. The vital importance of early diagnosis and treatment of syphilis should be deeply and indelibly engraved on the mind of every physician who has to deal with genital lesions. Since extragenital chancres are by no means a rarity, this statement applies to every practicing physician.

In the light of our modern knowledge of syphilis, the means at our disposal for early diagnosis, and the valuable therapeutic agents at hand for treatment, it is a deplorable fact that the disease is frequently diagnosed by the appearance of the secondary eruption. The time is at hand when a secondary eruption of syphilis should be a dermatologic rarity, and the occasion of such a diagnosis should imply carelessness on the part of the physician first seeing the patient for his failure to diagnose the chancre. The only excuse is to be found in the fact that patients with secondary syphilis commonly give the history of having had very recently a "chancroid" which was "burnt" with a silver nitrate stick before an opportunity was given to the physician for correct diagnosis. The question may, therefore,



Fig. 1. Abrasive chancre shaft: incubation, one month; duration, two days; self-treated with iodin; dark-field positive; Wassermann reaction negative.

appropriately be asked, "Who first sees and treats the majority of patients with primary syphilis?" The answer usually is, "quacks," the corner druggist, and the physician who as a routine treats all genital lesions with an application of a caustic drug, and who either entirely neglects the valuable means at hand to diagnose the syphilitic lesion, or is ignorant of these methods.

It may be stated that the future of the syphilitic patient depends upon the knowledge and training of the physician first consulted for the treatment of the patient's chancre. The patient whose photograph shows the indurated remains of a genital chancre (Fig. 7) was treated solely by the application of an antiseptic drug applied soon after the chancre first appeared. This application healed the lesion and the induration appeared later. The disease was diagnosed and treatment instituted after the secondary eruption appeared. Unfortunately, such cases can be duplicated many times from the records of a large clinic treating syphilis.

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The means for diagnosis of primary syphilis are: clinical features of the chancre which, if sufficiently characteristic, are diagnostic; the



FIG. 2. Abrasive nonindurated chancre: duration one week; untreated locally; dark-field positive; Wassermann reaction negative. The surface was beef red, freely secretive, nonpainful, not tender; the edges were flat and sharply marginated; induration was absent.

demonstration of the Spirochæta pallida in the dark-field microscope, and the Wassermann reaction.

CLINICAL FEATURES OF THE CHANCRE

Of late years, in the diagnosis of syphilis, the appearance of the chancre has been neglected.



FIG. 3. Abrasive orbicular chancre glans: duration, three days; no previous local treatment; dark-field positive; Wassermann reaction negative. This sore was the size of a split pea, the floor was uninfected and red; the edges were a little below the level of the surrounding parts; induration was absent. This type of chancre is typical for this location.

With the advance of laboratory methods, there has been an unfortunate tendency to depend more on laboratory diagnosis than on clinical manifestations[1].

The morphology of the chancre varies greatly, not only in different locations, but in the same location. Textbook descriptions usually give what might be called "classical chancres," which portray to one's mind a dominant type of chancre, whereas, in many chancres, all the features of these classical cases are not necessarily present. Properly to present clinical features, a topographical description would be necessary. Space, however, prevents this, although the following general features, together with the illustrations, embrace the main points.

Incubation period.—Fournier gives fifteen days as the minimum period, and forty-two days as the maximum. It is usually given as three weeks, but I believe the usual incubation period is about thirty days.

Multiplicity of the sore.—There is a deep-rooted and widely prevalent view that the chancre is rarely multiple. Fournier gives the percentage of multiple chancres as 18; White and Brown[2]

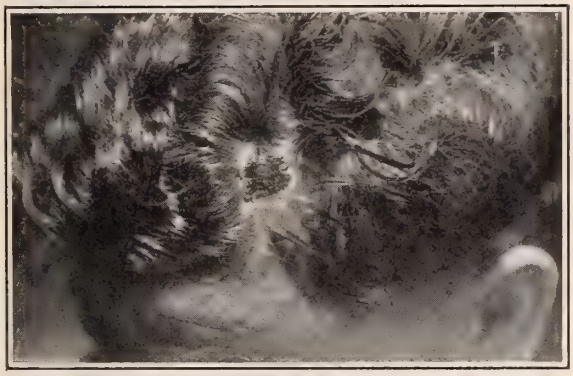


FIG. 4. Abrasive nonindurated chancre: duration six weeks (secondary eruption present); no recent local treatment; dark-field and Wassermann reaction positive. The sore was slightly elevated, with a smooth, glazed, beef-red surface, slightly crusted; the edges were flat and sharply marginated. Slight underlying induration. Marked enlargement of pre-aurical, anterior cervical, and axillary lymph nodes. The patient also presented chancre on the shoulder and arm.

as 19; and in my observations[3], multiple chancres existed to the extent of 17 per cent.

Noninflammatory edema.—When present, this edema is a valuable aid in diagnosis. It is seen in only about 10 per cent of chancres involving the male and female genitalia. It may involve the area surrounding the chancre, or the whole of the prepuce or labia. It is due to the blocking of the lymphatics and frequently causes a phimosis (which conceals the chancre) unaccompanied with balanitis. The skin is of a dull, livid red or bluish tint. There are lacking signs of acute inflammation, such as are present in the inflammatory edema accompanying balanitis, acute gonorrhea, or a nonsyphilitic septic sore.

Size of chancre.—The size of the chancre is of no diagnostic help. It may vary in size from that of a pinhead to that of a silver dollar.

Pain.—Unless the chancre is inflamed by a secondary infection, it is not painful, not tender, not inflammatory, and without a surrounding halo of inflammation.

The earliest clinical appearance of a chancre, regardless of its location, is a minute, sharply rounded, hyperemic area, which after a very short period becomes a superficial abrasion (Fig. 1). This type of chancre is called the abrasive or erosive chancre. This small abrasive chancre is usually seen only early, and is the first appreciable evidence of a syphilitic infection. On account of the insignificant appearance of the sore it is frequently undiagnosed. The surface is round, about 0.5 cm. or less in diameter, sharply marginated, smooth, and polished. It appears exactly like an abrasion or excoriation because of the shedding of the uppermost epithelial layer. The following changes take place:



FIG. 5. Abrasive papular chancre: duration two weeks; untreated locally; dark-field positive; Wassermann reaction positive. The surface was beef-red in color, with flat, sharply marginated edges. (Patient from the clinic of Dr. J. F. Schamberg.)

The abrasive area enlarges; otherwise the sore remains unchanged. This larger abrasive type of chancre (Fig. 2) may remain as such throughout its course. Most chancres on the glans are of the abrasive type (Fig. 3) and persist as such; early induration is absent. Later, however, the induration is slight, but is never marked. The floor of the abrasive chancre has the redness of raw beef. Its periphery is sharply marginated, flat, and flush with the surrounding parts. These features are shown in Fig. 2. There is a considerable amount of serous secretion present, which is a very valuable diagnostic sign. Frequently, this secretion may dry into a crust (Fig. 4) which alters its gross appearance only, since removal of the crust discloses its sharply marginated beefy floor.

If induration does not develop, and the surface remains uninfected, the sore remains as an abrasive chancre with a crusted surface. In this event, it appears as an innocent lesion, and is frequently not diagnosed. Fig. 13 shows another such chancre—an abrasive area with a crusted surface, with induration entirely absent. It remained as such throughout its course (six weeks). The appearance of the secondary eruption led to the diagnosis. However, early and marked cervical lymph-node enlargement facilitated diagnosis soon after the appearance of the chancre.

The appearance of the chancre may be altered by induration, which may develop beneath its surface in such a manner that the sore is raised above the level of the surrounding parts—a papular chancre (Fig. 5)—or the induration may be spread out in a fanlike manner, so that the surface of the chancre is not raised (Fig. 6). In this case, induration is best appreciated by palpation. In either event, the surface may retain its original abrasive or beefy floor (Fig. 5), or it may be covered with a crust (Fig. 12), or become entirely healed (Fig. 7)—usually the result of local antiseptic treatment—or the surface may become infected (Fig. 10).

Induration.—Not all chancres become indurated. When induration is present (Figs. 5, 6, 7, 10, 12), it is valuable evidence of syphilis, but its absence does not exclude syphilis (Figs. 1, 2, 3, 4, 8, 9, 11, 13). This feature of a chancre is variable. The induration may appear early in the primary stage or late. The older the lesion, the more likely is the induration to be marked. The degree depends in a large measure on the location of the chancre. As the result of pyogenic infection, induration may decrease or even disappear entirely. It is erroneous to visualize all chancres as indurated sores.

Induration is always slight or entirely absent in the granulating type of chancre later described (Fig. 11). In some locations, as on the lip, induration of the chancre is marked and appears early. However, there are exceptions in which induration is entirely absent. Such an instance is shown in Fig. 13.

Pyogenic infection.—Pyogenic infection of the

aforementioned types of chancre changes the appearance. The surface may be superficially infected, in which event it becomes covered with a yellowish membrane which conceals the original beefy floor. The edges, however, remain flush with the surrounding parts. Ulceration of the floor may occur to a variable degree, the floor becoming depressed and suppu-



Fig. 6. Abrasive indurated chancre: incubation thirty-five days; duration six weeks; previously treated locally with iodoform; dark-field positive (organisms scanty); Wassermann reaction four plus. The surface was partly healed; induration was marked and spread out.

rative, and the edges raised but not undermined (Figs. 8, 9). If ulceration is extensive, the sore becomes phagedenic, and the floor is bathed with a seropurulent fluid. This type is frequently seen in the coronal sulcus, and is depicted in Fig. 10.

These pyogenic, infected chancres are painful and tender, and an inflammatory zone may surround the lesion. The essential features of the chancre are no longer apparent; hence a clinical diagnosis becomes difficult, indeed impossible. If, however, characteristic induration of the chancre is present, the diagnosis is facilitated.

The granulating chancre.—In addition to the chancres described above, there is another common type which presents different clinical features. This type of chancre, variably named by different writers, is typical in appearance; it is usually quite large, round, or oval; its floor is bright red and glazed, presenting the appearance of granulating tissue, which suggests the name of granulating chancre. Its margin is regular, sharply defined, with a shelving edge. Its general appearance is as if the sore had been painted on the involved part. Induration is very slight, frequently absent, so that by grasping the sore between the finger and thumb, it can easily be bent on itself. Its surface may become crusted, but when the crust is removed, the general character of the chancre is apparent. It is the type of chancre most frequently found on the shaft of the penis; if oval, the long axis runs transversely around the penis. It is also a common type of extragenital chancre. It is not always recognized, since its crusted surface stimulates an impetiginous lesion. Such a chancre is shown in Fig. 11. The scar left by this type of chancre is characteristic: its outline corresponds in size to the original sore; its center is white (apigmented), with peripheral formation of pigment.

Extragenital Chancres.—According to Fournier, eight to nine per cent of all syphilitic chancres are extragenital. In his analysis of 1,063 cases, 849 involved the cephalic region. Of this number, 727 involved the mouth, 567 of which were labial chancres. It is apparent from his statistics that chancre of the lip is the most frequent extragenital lesion. However, some authorities state that tonsillar chancre is the most frequent, whereas Fournier places it as fourth in the order of frequency.

Space permits discussion only of chancre of the lip. It is seen most frequently in women. It first appears as an erosive area, not painful, and not tender. If the surface of the sore involves the outer portion of the lip, it is usually covered with a dry crust; if on the inner portion,



Fig. 7. Indurated remains of chancre. Soon after the sore first appeared, local antiseptic treatment was applied which healed its surface; induration appeared later. The appearance of the secondary eruption led to diagnosis.

the surface is moist or superficially infected. Induration appears early and is marked, which causes eversion of the lip, producing a characteristic "pouting" appearance. Early and marked enlargement of the nearest lymph nodes is characteristic. The nodes are painless and so hard that the enlarged area feels like an exostosis. This may be called a "classical" chancre of the lip, and is depicted in Fig. 12. However, there are exceptions in which the lesion is an erosion, of variable size, in which

induration is slight or entirely absent. This type is shown in Fig. 13. Marked enlargement of the nodes may also be absent.

THE DEMONSTRATION OF SPIROCHÆTA PALLIDA—THE DARK-FIELD EXAMINATION

The demonstration of the Spirochæta pallida under the dark-field microscope is by no means a complicated or time-consuming procedure. If



FIG. 8. Infected indurated chancre: duration three weeks; treated locally; dark-field, after many examinations, was positive; Wassermann reaction two plus. The surface was infected, depressed, yellowish-red, covered with a sero-purulent fluid. The edges were slightly raised; induration was absent; the swelling shown beneath the sore was inflammatory edema.

the dark-field condenser is properly adjusted in the substage of the microscope, the time consumed in the examination is that required to obtain serum from the lesion on a cover slip and focus the slide in the microscope. To recognize the Spirochæta pallida is not difficult.* The appearance of this organism is striking when compared to other much coarser spirochetes which may be present in smegma and in the secretions from a suppurative lesion. Indeed, if clear serum is obtained from the lesion, there is little likelihood of other spirochetes being present. To obtain clear serum, it is necessary to cleanse the surface of the sore and to exert pressure. The presence of pus, debris, and blood cells may conceal the presence of the Spirochæta pallida.

In an untreated and uninfected lesion, the absence of the Spirochæta pallida under the dark-field microscope is presumptive proof that the sore is not a chancre. A single negative finding, however, should never be taken as conclusive evidence, and the suspected lesion should be re-examined at daily intervals. The lesion should be dressed only with saline solution or boric-acid solution. No antiseptic treatment should be instituted until the diagnosis is established beyond doubt. This is especially important, because local treatment with a spirocheticidal drug greatly decreases the percentage of positive findings. The commonly used drugs for local application—silver nitrate, mercurial salts, iodin, copper sulphate, and iodoform—are spirocheticidal. Such drugs cause the Spirochæta pallida to disappear from the surface of the chancre. They, however, reappear if the application is discontinued. Antisyphilitic drugs administered internally rapidly render the dark-field examination negative. Infection of a chancre with pyogenic organisms may sometimes cause the spirochetes to disappear from the surface of the chancre, or reduce their number so that they can be demonstrated only with difficulty.

In previously treated chancres, the serum from the deepest part of the sore should always be examined, as it is unlikely that spirochetes will be found near the surface. When the dark-field examination is negative, the application of alcohol to the surface of a chancre may be of



FIG. 9. Ulcerative chancre of the frenum: duration, from fifteen to twenty days; previously treated with silver nitrate; dark-field positive; Wassermann reaction one plus. The part of the sore involving the foreskin was clinically a chancre, with abrasive crusted surface. The part involving the glans, however, presented the picture of a nonsyphilitic sore; the surface was depressed and suppurative, the edges were raised; induration was absent. Note the edematous foreskin, presenting the features of noninflammatory edema, which was of diagnostic value.

service by dilating the lymphatics, thus bringing the spirochetes to the surface of the lesion.

In an analysis[3] of 115 chancres in relation to the diagnostic value of the dark-field examination, it was observed that in chancres examined within ten days of their appearance, the dark-field was positive in 93.9 per cent of cases. In chan-

*For a detailed description of the technic of dark-field examination and the recognition of the Spirochæta pallida, see the volume by H. Noguchi, "The Laboratory Diagnosis of Syphilis." New York: Hoeber, 1923.

cres examined within ten to twenty days of their appearance, the dark-field was positive in 52.9 per cent. When examined within twenty to thirty days of their appearance, the dark-field examination was positive in 50 per cent. When examined within thirty to forty days of their appearance, the dark-field was positive in 60 per cent. A small number of chancres comprised



FIG. 10. Ulcerative, indurative chancre—sulcus: duration, one month; treated locally with silver nitrate; dark-field positive (few organisms seen); Wassermann reaction four plus. Note the extensive area of infection and ulceration; the floor was covered with a foul-smelling, yellowish-green secretion. Induration was present beneath the entire area. In addition, there was a raised and crescentic form of induration involving the right side of the prepuce just beyond the sulcus. This sore is a typical infected chancre of the sulcus.

this series, which probably explains the high percentage. In chancres examined after fifty days from their appearance, the dark-field was positive in 30 per cent. The incidence of positive dark-field examinations became less in proportion to the duration of the chancre. Of the 115 chancres with an average duration of 33.4 days, 57 per cent were positive. This low percentage may in part be due to the fact that 66 per cent of the chancres in the series had received local treatment previous to the dark-field examination. An added factor is the long average duration, as the longer the duration of the chancre, the more likely it is that its surface will heal. Furthermore, the possibility of a phimosis developing is greater; hence a dark-field examination may be impossible or unsatisfactory. The sore is also more likely to have had local treatment, and finally, pyogenic infection is more likely to be present.

THE DEMONSTRATION OF THE SPIROCHÆTA PALLIDA FROM LYMPH NODES AND FROM BENEATH THE SURFACE OF THE CHANCRE

If the surface of the chancre is healed, usually as the result of antiseptic treatment, or the lesion is concealed because of phimosis, it is possible to demonstrate the Spirochæta pallida by puncturing into the body of the chancre. The organisms may likewise be demonstrated by puncturing the enlarged lymph nodes draining its site. In these circumstances, a few drops of saline solution is injected, with a small needle and syringe, into the node or indurated part of the chancre, and then aspirated. The fluid thus obtained is examined in the dark-field.

THE WASSERMANN REACTION

The value of the Wassermann reaction as an aid to the early diagnosis of syphilis is in proportion to the duration of the chancre. At the time of the first appearance of the sore, this reaction is invariably negative. The percentage of positive reactions gradually increases with the duration of the sore, until a short period before the appearance of the secondary eruption, it becomes positive in 100 per cent. Therefore, in the early period of primary syphilis, this reaction is not a very valuable diagnostic aid; in the later period, however, the reaction is of considerable diagnostic value. In an analysis[3] of

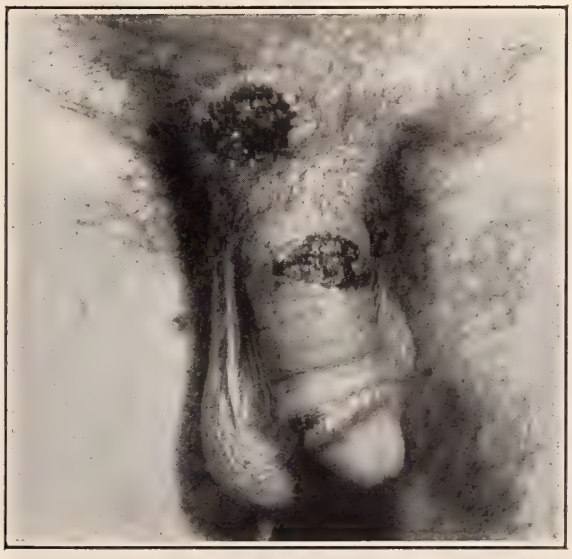


FIG. 11. Multiple granulating chancre: duration one month; dark-field and Wassermann reaction, positive. The floor was crusted, beneath which was a depressed granulating surface; the edges were raised and shelving; induration was absent. Note the round and oval outline—characteristic features.

115 chancres in relation to the time of appearance of a positive Wassermann reaction, it was observed that within the first ten days of the appearance of the chancre, the Wassermann re-

action was positive in 36 per cent of cases. From ten to twenty days after the appearance of the chancre, the Wassermann reaction was positive in 64 per cent. In from twenty to thirty days, the Wassermann reaction was positive in 70 per cent. In the cases exceeding thirty days, the reaction was positive in all. The average percentage of positive reactions was 74.

It is not desirable that the Wassermann reaction be employed as a diagnostic aid in primary syphilis, because the appearance of this test probably means that a general invasion of the spirochetes has taken place. In experimental syphilis, this is definitely known to be so. The disease should be diagnosed and treatment instituted before this invasion occurs.

THE LOCAL WASSERMANN REACTION

As an aid to the early diagnosis of syphilis, it is of value to know that a four-plus Wassermann reaction is invariably obtained when performed with the fluid aspirated from the surface of the chancre.

In our study[4], four-plus reactions were obtained from chancres which were treated locally, as well as from those untreated. The dark-field was found negative as well as positive in this group. Secondary infection was absent in some cases and present in others. A clear, uncontaminated fluid from the surface of the chancre is not a requisite in obtaining a positive Wassermann reaction. We obtained a positive Wassermann reaction with chancre fluid before the reaction appeared positive in the blood. Hence, there is no objection to the presence of blood in the chancre fluid.



Fig. 12. Abrasive indurated chancre: incubation, one month; duration, two weeks; treated locally with beta napthol; dark-field positive (organisms scanty); Wassermann reaction positive; marked enlargement of lymph nodes. The floor was covered with a crust; the underlying induration caused slight eversion of the lip and the characteristic "pouting" appearance. This sore represents a "classical" chancre of the lip.

In view of these considerations, the Wassermann reaction performed with chancre fluid appears to be of clinical value in the early diagnosis of syphilis. However, its only value is in the cases of chancre in which the dark-field examination of the lesion is negative and the blood Wassermann has not yet become positive.

The only objection to the method of performing the Wassermann reaction with chancre fluid lies in the difficulty of obtaining sufficient fluid. Nevertheless, this method has a place in the laboratory diagnosis of chancre, particularly in that type of case of which mention has already been made. The method is not to be advocated in lieu of the dark-field examination, nor should a negative reaction, particularly when performed with a diluted fluid, be taken as conclusive evidence that the sore is not a chancre.

COMMENT

Every physician should have impressed upon him the following dictum: Every venereal sore should be regarded as syphilitic until it is proved otherwise. Indeed, this appropriately applies to extragenital sores, particularly on the lip, that do not readily heal.

One is never justified in dismissing a patient after only one examination with the assurance that he has not contracted syphilis. The possibility of the coexistence of chancroid and chancre (mixed infection), in which the sore at first is clinically a chancroid, and later assumes the features of a chancre, makes every chancroid potentially a chancre.

The suspected lesion should be cleansed, inspected, and palpated. The common practice of treating genital sores locally with an antiseptic drug before they are properly diagnosed should be discouraged. A routine dark-field examination of every genital sore as a means to an early diagnosis should be the rule rather than the exception.

In every case of a phimosed foreskin, the area over the sulcus should be palpated for localized induration, which is usually present if the concealed sore is a chancre. However, in non-syphilitic sores, some induration may be palpable. The presence of noninflammatory edema of the prepuce should be noted. The presence of edema has much less significance if there is an accompanying balanitis, or an acute purulent discharge. Fluid obtained from the edge of a phimosed prepuce, or that obtained by means of a fine capillary pipette passed under the foreskin should be examined for the Spirochæta pallida.

As aforementioned, the time of appearance of a positive Wassermann reaction in primary syphilis is variable. Hence, this test should be made in all cases at the time the sore is first seen. I have observed a four-plus reaction in chancres of a few days' duration. On the other hand, I have observed a positive reaction delayed

until just before the appearance of the secondary eruption. Positive reaction so early or so long delayed is exceptional.

When considering the possibility of mixed infection (chancroid and chancre), and allowing six weeks as the usual lapse of time between the chancre and the secondary eruption, the final Wassermann test should be made not less than nine weeks from the time of the first appearance of the sore before a negative reaction can be accepted as excluding syphilis.

It is important to keep the patient under constant surveillance to observe the evolution of the suspected lesion. A sore that heals readily, no induration appearing at its site, without enlargement of the nearest lymph nodes, is strong, but not conclusive evidence, against the existence of syphilis. Inflammatory and suppurating adenitis is evidence against syphilis, since this occurrence is uncommon even in pyogenic infection of the chancre. On the other hand, the surface of an innocent-looking lesion may partly or completely heal, induration appearing later, which marks its site as an indurated plaque with enlargement of the nearest lymph nodes. This constitutes considerable evidence of syphilis. Again, a typical-appearing chancroid may gradually become indurated, presenting the appearance of a chancre.

Not until the aforementioned tests and observations have been carried out can one definitely exclude syphilis.

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ABSTRACT OF DISCUSSION

On Symposium on Diagnosis of Syphilis

Jay F. Schamberg, M.D. (Philadelphia, Pa.): A patient under my care at the present time was referred to me by a gastro-enterologist for treatment of lesions on the sole of the foot. This patient was supposed to have a duodenal ulcer from which he had suffered for a number of years. The lesion on the foot proved to be syphilitic, and under appropriate treatment, all of the symptoms referable to his upper abdomen disappeared. He had a strongly positive Wassermann, which has remained so despite vigorous treatment. He also has fixation of the pupils. Recently he returned with a recurrence of the abdominal pain, stating that his physician advised operation. Up to this time, he has refused a spinal-fluid examination, but I am strongly suspicious that he has disease of the central nervous system.

Proper diagnosis is most important in this type of case, and Dr. Stokes has conferred a benefit upon the profession in calling attention to omissions in methods of examination, particularly in surgical cases.

Particular emphasis should be laid upon Dr. Busman's statement that serologic tests cannot be relied on exclusively in the diagnosis of syphilis. Even in secondary syphilis, the Wassermann is sometimes (although rarely) negative. If this occurs when there should be an abundance of reagin in the blood, how much more likely is it to occur later! Much depends upon the technic of the Wassermann test. If the more sensitive complement-fixation tests (such as that of Kolmer) are performed, in association with the Kahn precipitation test, there should be fewer false negative reactions. After all, the fallibility of the Wassermann test is on the negative side.



Fig. 13. Abrasive nonindurative chancre: duration six weeks (secondary eruption present); untreated locally; dark-field positive; Wassermann reaction four plus. The surface was an abrasion, slightly crusted. Induration was entirely absent. The marked bilateral enlargement of the lymph nodes felt like exostosis. This sore is atypical for the location.

I am in entire agreement with Dr. Klauder that if the diagnosis of syphilis were made earlier by means of the dark-field examination, we should save our patients an infinite amount of time, and provide greater security as regards the complete elimination of the disease. It is unfortunate that more cases of primary syphilis are not recognized before the secondary outbreak.

George E. Pfahler, M.D. (Philadelphia, Pa.): Even though there may be a positive Wassermann, in certain lesions on the tongue, carcinoma should be expected, for frequently the two conditions exist concurrently, the carcinoma probably secondary to the syphilis. In so many cases within my knowledge a diagnosis of syphilis has been made because of a positive Wassermann, and the patient treated for six months or a year for this disease without success, when there was an associated carcinoma present. A lesion on the tongue due to syphilis should show some response to treatment within two weeks.

William H. Guy, M.D. (Pittsburgh, Pa.): Too much emphasis cannot be placed upon the importance of early diagnosis. In differentiation of genital lesions, the use of the dark-field is most important. Absolute diagnosis cannot be made from the clinical appearance, and the percentage of positive Wassermann reactions in early primary lesions is low. Persistence is often required in making a diagnosis; repeated examinations are often necessary.

In cases where local antiseptic applications have been

made, gland puncture is a procedure of value. The spirochete can often be recovered in this way when local treatment has caused its disappearance from the surface of the chancre. This is the method of choice in lesions about the oral cavity, to avoid confusion with the spirochete microdentium.

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*SYMPOSIUM ON UTERINE BLEEDING**

ADOLESCENT HEMORRHAGE

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By hemorrhage of adolescence is meant hemorrhage between the ages of puberty and maturity, usually from 12 to 21 years of age.

The excessive menstrual bleeding of adolescence may be classified as: (1) due to anatomical causes; (2) due to general diseases; (3) functional or essential hemorrhage.

It is chiefly with the functional hemorrhage that we shall deal in this paper. However, given a case of menorrhagia during adolescence, it is necessary to exclude the first two groups of conditions before it can be classified as functional hemorrhage.

During adolescence there are the same organic causes of bleeding as in later life, but they are much less frequent, with the rôle of carcinoma practically eliminated. Under group 1, due to anatomical causes, the reason for bleeding may be obstetrical complications, as threatened abortion, retained membranes, subinvolution of uterus, and ectopic pregnancy. Other causes are inflammatory disease of the pelvic organs, tumors, as cervical and endometrial polypi, fibroids and sarcomata, and occasionally ovarian tumors. Fibroids are not commonly found below the age of 21, nor is sarcoma of the uterus a very common disease, but bleeding from these causes should be borne in mind.

Under group II, there is the bleeding in general diseases, as the anemias, blood dyscrasias, acute infectious diseases, chronic heart and kidney disease, and syphilis. In one case of prolonged profuse menstrual bleeding during typhoid fever, blood transfusion was finally used to control the hemorrhage. Congenital syphilis must not be forgotten as an etiologic factor in uterine hemorrhage in the young.

Group III, functional hemorrhage, is characterized by absence of the above-named causes of excessive menstruation. It is this type of bleeding that frequently occurs in young girls at puberty or in the few years after puberty, and it is apparently of endocrine origin. The ovary is so manifestly connected with the rhythm and duration of menstruation that it is directly responsible for such bleeding, but the influence of the other endocrine glands on the ovary, affecting its function, makes them indirectly responsible for some of these menorrhagias. Delving into endocrinology, one soon becomes confused as to the relation of the different glands in an individual case of menstrual disorder. However, the derangements of menstruation in cases of known endocrine dysfunction are striking enough to warrant a relation between the two. Kocher has noted and designated as "menorrhagia thyroprivia" the menorrhagia that occurs in patients from whom too much thyroid has been removed, and all are familiar with the long periods of amenorrhea in patients with severe exophthalmic goiter. The early onset of menstruation associated with early regression of the thymus, and the delayed onset of menstruation in cases of persistent thymus is suggestive. The absent or scanty menses with underdevelopment of the genital organs associated with hypoplasia of the pituitary gland (posterior lobe) and known as Fröhlich's syndrome, the enlargement of the thyroid during menstruation, and many other similar examples indicate a close interrelationship between the gonads and the other endocrine glands.

As such marked physical changes occur in the female body at the time of puberty, the active endocrine glands interacting with each other, there is no wonder that there is often a lack of adjustment and that a period of time must elapse before a balance is established. At the beginning of the menstrual life, menstrual irregularities and variations in quantity of flow are frequently found for a year or so before the patient settles down to her regular normal periodic flow. In further support of the endocrine theory of causation, there is often found definite evidence of endocrine disorder in patients with menorrhagia of adolescence.

These menorrhagias vary from slightly prolonged excessive flow to practically continuous bleeding, and the effect on the patient usually depends on the severity of the flow and constitutional make-up of the individual. Some of the patients with flow considerably above normal present the picture of health, with rosy cheeks and firm tissues, and apparently they are undisturbed by the phenomenon except for the inconvenience of the prolonged flow, while others are markedly anemic and it is evident that measures must be taken to check the flow.

Pathologically, the findings are negative except for hyperplasia of the endometrium, and often cystic ovaries.

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

TREATMENT

The lines of treatment that have been advocated are:

(1) *Drugs acting on the uterus, as ergot and pituitrin.* These are usually ineffectual.

(2) *Organotherapy.* Except in cases of definite hypothyroidism, where carefully regulated thyroid-extract therapy is effective, most of the organotherapy used is ineffective. Ovarian extracts, pituitary, and thyroid have been used chiefly, and most advocates recommend pluriglandular therapy in order to try to establish an endocrine balance; but on studying the results, one is disappointed in finding so many variations and so many recurrences that it is a question if the results obtained were any but natural variations in the endocrine imbalance, uninfluenced by the therapy used. The lack of exact knowledge of the relative parts played by the different glands in an individual case, and the lack of standardization and potency of the various glandular extracts makes organotherapy in this condition a hit-or-miss affair which is very disappointing. There are certain things, however, to be said in favor of organotherapy instead of radical procedures such as surgery of the uterus and ovaries: With the exception of injudicious use of thyroid extract, the oral administration of most organ extracts is harmless, it has a good psychic effect, in that the patient and her relatives are satisfied that something is being done for the condition; and it allows enough time to elapse to permit the automatic establishment of a balance between the endocrine glands. In other words, the results are so variable that one is led to believe the outcome is the result of time rather than therapy. Good results have often appeared to follow administration of corpus luteum extract in patients who have consulted me after ten or fourteen days of bleeding, the flow stopping in a few days after taking the medicine. But at the next period the flow would continue as long as before, the extract apparently having no effect. However, since the results of organotherapy are good in hypothyroidism, an effort should be made to determine if this condition is present. In addition to the known physical evidences of hypothyroidism, the history of overweight at birth, delayed appearance of teeth, delay in walking and talking and bed-wetting in childhood are suggestive of hypothyroidism. A low basal metabolic rate will confirm the clinical diagnosis.

(3) *Curettage.* Hyperplasia of the endometrium is quite constant in this condition, and while curettage may stop the flow temporarily, it tends to recur in subsequent periods and is not to be recommended, except for diagnosis. There is too much use of the curette in these cases.

(4) *Surgical treatment of uterus and ovaries.* In severe cases, hysterectomy or resection of ovaries has been advocated. We believe that such radical treatment is unwarranted in young women.

(5) *Use of x-ray and radium.* These measures must be used with the greatest caution. If active measures are necessary to check the hemorrhage, radium treatment is preferable to use of x-rays because of less direct effect on the ovaries. It requires usually 1,200 to 1,500 milligram-hours to produce complete cessation of menstruation. In radiotherapy of bleeding of adolescence the object desired is to reduce the quantity of blood lost but to preserve menstruation, so that not more than 150 to 600 milligram-hours should be used. Recently, European writers have been advocating irradiation of the spleen rather than the pelvic organs, but with no constant results.

(6) *Rest and general hygienic measures.* Probably the most valuable treatment. Rest in bed at the time of the flow is one of the most important therapeutic measures. In order to improve the general health of the patient, hygienic measures such as rest, regulation of hours of work and sleep, fresh air and diet, and in marked anemia, blood transfusion, are valuable.

Briefly to sum up the treatment, uterine stimulants and curettage are ineffective. Organotherapy would seem to be the rational procedure, but has been disappointing except in thyroid insufficiency. Hysterectomy or operations on ovaries are effective but too radical. Radiotherapy carefully carried out with every effort made to conserve menstruation may prove to be the best treatment in cases where active treatment is necessary, although this is not ideal treatment, as it affects the pelvic organs locally without correcting the underlying causes of the bleeding. Until more is known about the ultimate effects of these radiotherapeutic agents, they should be used with the greatest caution in young women. Lastly, we advocate the conservative treatment of the menorrhagia of adolescence, unless it is so severe that the constitutional effect on the patient is such that active measures are necessary. If the fears of the patient are quieted, and the physician himself does not become excited, most of these cases adjust themselves in time without causing serious damage. It is first necessary to rule out the anatomic and general causes of hemorrhage, and after establishing the diagnosis of functional hemorrhage, to institute a careful hygi-

enic regimen for the patient, especially rest in bed at time of menses. Then a procedure along the lines above indicated may be followed according to the severity of the bleeding.

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UTERINE HEMORRHAGE COMPLICATING PREGNANCY

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Uterine hemorrhage appearing during the course of pregnancy is invariably associated with more or less grave pathological changes, and the occurrence of bleeding at this time should always be regarded with alarm by the medical attendant. The causes of gestational uterine hemorrhage are so varied and its management depends so completely upon the correct interpretation of the provocative factors that any discussion of the subject must perforce open with a consideration of the source and the relative frequency of the several varieties of this bleeding.

Pregnancy may be conveniently divided into two periods; the first epoch extending from the time of conception to the period of fetal activity or quickening, say twenty to twenty-four weeks; and the second period including the time from quickening to parturition, or about twenty weeks additional.

Pathological bleeding may occur at any time during gestation, its mode of onset differing widely during the two periods. To reach a correct conclusion as to the cause, one must fully appreciate the relative frequency of the different forms of hemorrhage. For this purpose it is well to enumerate these causes in their order of frequency. First period: threatened abortion; ectopic pregnancy; hydatidiform mole; tumors, polyps, etc., of the uterus; placenta prævia (in the last weeks only). *Second period:* placenta prævia; premature separation of the normally implanted placenta; premature labor; ectopic pregnancy; tumors, etc., of the uterus.

The relative frequency of the lesions underlying hemorrhage, must also be estimated in order to facilitate diagnosis. It is my opinion, based upon a retrospect of the cases seen in hospitals and private practice, that during the first period of pregnancy the causes of hemorrhage in every hundred cases may be classified about as follows: threatened abortion of an intra-uterine pregnancy, 80; ectopic pregnancy, 15; hydatid mole, placenta prævia, and tumors, 5. This ratio is not based upon a detailed statistical review, but is purely the impression received in analyzing the series of patients seen over a number of years.

During the second period of pregnancy, the relative frequency of causes underlying hemorrhage may be described as: placenta prævia, 40; premature labor, 35; separation of the normally situated placenta, 10; ectopic pregnancy, 10; tumors, etc., 5. With even this rough classification in mind, the diagnosis of these bleedings is materially aided, and the most marked emphasis is to be laid upon the statement that diagnosis as to the lesion involved is an absolute essential if these patients are to be properly treated and the bleeding combated with a minimum of damage to the two individuals concerned.

In the first period of pregnancy, then, the most common problem is the differentiation between threatened abortion and ectopic pregnancy, and while at first thought this would seem to offer no difficulty, experience has shown that the separation of these two conditions is often most baffling and many mistakes occur. Farrar has stated that, in the Woman's Hospital in New York, out of 186 cases operated upon for ectopic pregnancy, 16 had been curetted in the belief that incomplete abortion existed.

The differential diagnosis is based upon several factors, first of which is the history. In abortion, there has usually been a missed period or two without bleeding of any sort prior to the hemorrhage under discussion. The patient may, and usually does, present some of the characteristics suggestive of ectopic pregnancy, if this condition is present; i.e., previous pelvic operations, attacks of pelvic peritonitis, one-child sterility, an old gonorrhea, and so on.

The onset of the symptoms varies, too, in the two conditions, bleeding from the partial separation of the ovum from its uterine implantation being usually the first evidence of pathology in abortion, the bleeding slowly increasing in amount until it becomes very profuse, only later being accompanied by the severe cramplike, recurring pain of uterine contraction. In ectopic pregnancy, on the other hand, pain is almost invariably the first symptom, as a result of the distention of the tubes from hemorrhage into and about the ovum and the reaction of the parietal peritoneum to the presence of free blood in its cavity. Vaginal bleeding in ectopic gestation usually follows the onset of pain in from 24 to 48 hours, the death of the ovum causing a secondary exfoliation and stripping of the uterine decidua. It has been stated that the vaginal hemorrhage in extra-uterine pregnancy is, due at least in part, to the reflux of blood from the tube, through the uterine cornua, and so into the cavity of that organ. This view does not

seem to be borne out by the facts, since in an examination of many pregnant tubes removed at operation, the uterine end is usually closed off by the tubal ovum and its sac, and only rarely is there any microscopic evidence of bleeding occurring by this route.

The character of the pain varies also in the two conditions, that of abortion being always cramplike, with longer or shorter periods of respite between the uterine contractions and mostly located in the mid-line and down to the thighs, often with intense backache. The pain at first is slight, steadily increasing in severity until the ovum has entirely separated, and the fetus, with or without its placenta, has been expelled from the cervix. In ectopic pregnancy, the pain is usually sudden and violent in onset, subsiding rather than increasing as time passes, and changing from an acute, lancinating agony to a dull generalized ache, as the peritoneum reacts to the irritating free blood.

Pelvic examination may or may not reveal pathogenic features. In intra-uterine abortion, the uterus should be relatively larger, the cervix softer and to some degree dilated, and there should be no palpable masses occupying the tubal site. Cyanosis of the vaginal mucosa is far more common in intra- than in extra-uterine gestation. No evidence of blood is felt in the culdesac, and the cervix is not especially sensitive to manipulation.

In tubal pregnancy, the uterus is not so large, and the cervix is harder and exquisitely sensitive, the slightest manual pressure upon the structure often eliciting severe pain. There is commonly a doughy mass in the culdesac, due to the presence of blood clots in the most dependent portion of the pelvis, but the sign may be wanting. A tender mass may be outlined in one or other of the vaginal vaults, and when present, is strong corroborative evidence, but is not an infallible finding. The periumbilical cyanosis described by Cullen as associated with free blood in the peritoneal cavity is usually conspicuous by its absence.

Laboratory findings are of but little value except that there is usually some leukocytosis in ectopic pregnancy, the count being higher than in intra-uterine abortion.

This most important diagnosis may be epitomized as being best based upon a detailed history, especially as to the early symptoms of the attack, the findings on pelvic examination often being of only secondary value.

The more rare lesions causing hemorrhage during early pregnancy are hydatid mole and tumors of the uterus or vagina. The former condition offers great difficulty in diagnosis, but differs from normal pregnancy in that the uterus is larger than it should be at a corresponding period of gestation. Mole may be suspected when a patient with a very large uterus suffers greatly from the toxemia of early pregnancy. When hemorrhage occurs as a result of these lesions, it is usually profuse, and on close examination there are usually found a few or many of the little grapelike cystic bodies which are absolutely characteristic of this disease.

Tumors of the cervix which may be responsible for hemorrhage are either malignant growths or endometrial polyps, some of which later attain to great size and may give rise to quite profuse bleeding. The diagnosis depends, of course, upon the discovery either of a necrotic ulcerating carcinoma of the cervix or vagina, or a polyp protruding from the cervical canal.

The management of uterine hemorrhage during pregnancy is based entirely upon a correct determination of its cause. Bleeding associated with ectopic gestation requires no local treatment whatever, immediate operation via the abdominal route being the only available procedure. While awaiting the opportunity for operation, both vaginal and intra-abdominal bleeding in extra-uterine pregnancy may in slight measure be controlled by the hypodermatic exhibition of morphin and by the application of ice bags over the lower abdomen of the patient.

Intra-uterine abortion on the other hand, is best managed by a minimum of interference. Under present-day social conditions, there is no assurance that any abortion is spontaneous, and undue manipulation may all too readily convert a local infection into a general one.

The rule in the writer's hospital and private practice is that all vaginal manipulations are to be avoided as soon as diagnosis is made of intra-uterine abortion, the only indication for interference being alarming hemorrhage, when firm vaginal packing is employed, small pieces of absorbent cotton, wrung out of lysol solution, being introduced through a speculum to the vault of the vagina and the cervix, until the vagina is filled to capacity. When packing is utilized, it should be removed in twenty-four hours, when the ovum, if not previously passed, is usually found either in the vagina or partially extruded from the cervix, whence it may easily be removed with uterine dressing forceps. Systemic treatment with iron, quinin, arsenic, and strychnin, plus abundant feeding and heliotherapy, is instituted in all cases, and in the event of marked blood loss, frequent resort is had to blood transfusion.

Curettage of the uterine cavity, whether by instrument or finger, is never practiced in my

services, except when the temperature of the patient has remained normal for a minimum of three days, and obstinate uterine bleeding persists.

The cervical polyp, when found, is to be removed by a wire snare, or its pedicle severed by the cautery, when bleeding will cease at once.

In the presence of malignant tumors of the cervix, prompt termination of the pregnancy is indicated, with such measures for the elimination of the morbid growth as its degree of advance makes possible.

In the later months of pregnancy, the important differentiation between causes of bleeding lies between placenta prævia and premature separation of the normally implanted organ. Here, again, the history is of some value, as the latter lesion is not infrequently associated with some uterine traumatism, either direct or indirect. This association, generally regarded as essential, has been questioned in recent years, Holmes showing conclusively that the so-called abruptio placentæ is due much more often to changes in the vessel walls of the placenta itself than to any mechanical or traumatic cause. Toxemia of some type seems to play an important part in the genesis of this accident, and its presence or absence should always be ascertained during the examination of the patient. In placenta prævia the history is apt to be negative. Long-continued leukorrhea previous to pregnancy, with its implication of an old cervicitis or endometritis, and the fact that the patient is a multipara rather than a primipara, have some bearing. The mode of onset of the hemorrhage in placenta prævia is exceedingly variable. In one group of cases bleeding begins as a slight spotting at the fifth month, which is repeated at more or less regular intervals and usually with increasing severity, until a sudden profuse hemorrhage makes the situation clear to the observer. In another group, there may be no evidence of abnormal implantation whatsoever until late in pregnancy or at the onset of labor, when a painless hemorrhage is the first evidence that any abnormality exists.

Physical examination of the patient usually elicits certain definite signs and points of difference between the two conditions. In premature separation, the external hemorrhage may be relatively trivial in amount, though the woman shows evidence of acute anemia. This, of course, is due to the accumulation of blood in the uterine cavity, possibly within the ovum (the concealed hemorrhage of the older writers). In other instances, the vaginal bleeding is most severe, the patient sometimes succumbing to blood loss in a short time. There is usually pain in the uterus, worse on one side, the size and tension of the organ increase with marked rapidity, and the fetal heart sounds and movements soon disappear, as the child dies of asphyxia.

In placenta prævia there is no pain, the child does not die until very late, if at all, and the uterus does not increase in size or tension. The placental bruit may sometimes be heard over the symphysis; on vaginal examination, the boggy, pulsating placenta may be felt in the lower uterine segment; and on entering the soft cervical canal free bleeding may result.

The management of placenta prævia constitutes one of the important phases of clinical obstetrics, wide differences of opinion existing among obstetricians as to the best procedure to be employed. The methods of treatment most in vogue at this time are: version, with extraction of the leg, the breech acting as a tampon in the cervical canal (Braxton Hicks's maneuver); rupture of the membranes, allowing the presenting part to descend to the internal os and make pressure upon the bleeding placenta: the use of a dilating rubber bag, either intra-ovular or extra-ovular, to make pressure against the placenta or the uterine wall, as well as to facilitate dilatation of the cervix; cesarean section.

These various plans, with their merits and demerits, form a most interesting thesis for debate, but time does not permit here of more than a very brief abstract of their possibilities. Braxton Hicks's version offers a fairly good prognosis for the mother, provided the cervix is dilated or dilatable to such degree that a foot can be brought down without excessive hemorrhage occurring during the performance of this operation. Furthermore, there must be no disproportion between the fetus and maternal pelvis, since in this event the delivery of the child will prove so slow and damaging that further grave hemorrhage is invited. The dangers to the child under this method of delivery are very great, the infant mortality being well over 50%. The procedure is advised only when the child is small, or dead, or when hospital facilities are not available and severe hemorrhage makes some form of immediate hemostasis paramount.

Metreurysis, or the introduction of a dilatable bag, has found great favor with some obstetricians. The bag may be passed through the placenta and into the cavity of the ovum, it being then filled and traction upon its stem causing the placenta to be compressed between the bag and the uterine walls; or the bag may be introduced carefully into the cervix below the placenta, its elastic pressure causing dilatation of the cervix, as well as occluding the bleeding

sinuses. The late Dr. Cragin of New York was an ardent advocate of this measure, and achieved marked success by its use.

The so-called Rotunda treatment—simple rupture of the membranes, the descending presenting part making hemostatic pressure on the placenta—has but little to commend its general utilization. Available only in those instances of partial or marginal implantation of the placenta when a pouch of membranes protrudes beside this organ, its field of usefulness is distinctly limited.

Cesarean section, offers the greatest measure of safety for both mother and infant, when properly performed. Unless the mother is profoundly exsanguinated there should be no greater mortality rate for either patient than when the same operation is performed for some other indication, as, for example, contracted pelvis. With the rapid multiplication of community hospitals and the increasing number of trained surgeons throughout the country, this operation is quite generally practicable, and should be the procedure of choice in all cases of central implantation of the placenta unless some very definite contraindication exists. This plan of treatment has become practically routine with the writer, a most gratifying lowering of the mortality and morbidity attending this very grave lesion having been the result.

No matter what plan of treatment has been followed, it must be borne in mind that severe blood loss has been incurred by the patient, and the acute anemia must be vigorously treated. Blood transfusion, frequent and copious, should be employed, together with rectal or hypodermatic instillations of fluid at proper intervals.

Abruptio placentæ is a condition happily not common, but of the utmost gravity, and its management must combine rapid diagnosis and instant measures for relief. Inasmuch as most of the blood remains within the uterine cavity, and the site of the bleeding is not accessible from below, it follows that the uterus must be emptied without any loss of time whatsoever. Practically only two methods of attack are available. If the cervix be dilated or dilatable, forceps extraction or version may be attempted. Should the cervix be not effaced or dilated, abdominal hysterotomy must be promptly performed. In any case, the mortality rate, of both mother and child is extremely high, and this accident constitutes one of the very grave complications of pregnancy.

The management of placenta prævia before the viability of the child is a problem which frequently confronts obstetricians and offers great difficulties at times. What shall be done with a woman, say six months pregnant, who has had one or two moderate hemorrhages, and who is found to be suffering from placenta prævia? If pregnancy be terminated, the child will surely be sacrificed, while if nothing is done the woman stands in peril of repeated debilitating hemorrhage, perhaps with a fatal outcome.

If the placenta be centrally implanted, I believe termination of pregnancy to be the most conservative plan of treatment, but a natural repugnance to sacrificing a child renders its performance distasteful. Such a patient must be under constant observation, preferably in a hospital, and should repeated bleedings take place, the pregnancy should be terminated by all means. If the bleeding does not become alarming, the gestation may be carried along until well into the eighth month, when elective cesarean section may be safely performed with a good prognosis for both mother and child.

Rupture of the uterus as a cause of hemorrhage has not been included in this paper, since it is usually a complication of labor and not of pregnancy, and therefore does not properly come into the scope of this discussion.

In conclusion, it may be said that the entire question of the intelligent management of hemorrhage during pregnancy depends upon an accurate diagnosis of the pathological factors underlying the bleeding, and that the more prompt and sure the diagnosis, the more successful are the measures instituted for relief.

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HEMORRHAGE OF ADVANCED MENSTRUAL LIFE NOT DUE TO MALIGNANCY

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Menorrhagia and metrorrhagia together form one of the most common symptoms that cause women to consult a physician. This paper is limited to that bleeding which occurs during adult menstrual life, and excludes that due to accidents of pregnancy and to carcinoma. While the exact cause of the bleeding is in doubt in some cases, we shall attempt to divide the subject according to the etiology of the bleeding.

Constitutional Conditions

Anemia and Chlorosis.—During the course of an anemia, either primary, as chlorosis, or secondary, excessive menstruation is a common complication. The mechanism of the bleeding is very much in doubt, but it is apparent that once the bleeding is established, a vicious circle has

been created: the greater the bleeding, the more pronounced is the anemia; and the more marked the anemia, the more severe the bleeding. It is probable that the anemia disturbs the internal secretion of the ovary, and in that way is the indirect cause of the hemorrhage. The diagnosis must exclude all abnormal conditions of the pelvic organs that could cause such a disturbance, and also establish the cause and the degree of the anemia.

The treatment would naturally be to remove the cause of the anemia, to control the bleeding, and to restore the blood to normal. For the control of the bleeding, rest in bed, morphin, and pituitary extract are indicated; and for the anemia, proper diet, iron and arsenic, and in severe cases, transfusion will be effective.

Passive Congestion.—Occasionally an advanced case of heart disease will cause irregular or excessive bleeding from the uterus. This commonly takes the form of menorrhagia, occurs in advanced cases of heart disease, is rarely excessive, and is due to the engorgement of the uterine vessels. The diagnosis is easily made as soon as pelvic abnormality is excluded. The treatment is, of course, directed to the cause.

Infectious Diseases.—Hemorrhage from the uterus occurs at times during the course of typhoid fever, early tuberculosis, measles, and some other diseases. This at times is very profuse. It is one of the complications of the disease, and usually occurs only once. It will be controlled by morphin, stypticin, ergot, or pituitrin. An abortion must always be excluded.

Endocrine Disturbance

Ovary.—Normal menstruation depends on a balanced secretion from the ovary and the other ductless glands, especially the pituitary and thyroid. There has been much discussion as to what part of the ovary produces the internal secretion. It is thought that the follicle produces the substance which causes the menstrual flow, and that the corpus luteum secretes the substance which stops the flow.

Bleeding due to ovarian disturbance is characterized at the beginning by excessive and prolonged flow at the menstrual time, with intervals of complete freedom. In the nulliparous there is no change in the size of the uterus, while in those women who have borne children there is usually some enlargement of the uterus due to a thickened muscle. These latter are the cases that have been classed as arteriosclerosis of the uterine vessels, myopathic hemorrhage, chronic metritis, etc.

These comprise a large percentage of the bleeding cases, especially of those that occur in the latter part of the menstrual life, and apparently have been the foundation of the widespread superstition that bleeding at the "change of life" is to be expected and that time will correct it. It is true that if the woman does not bleed to death in the meantime, the bleeding in these cases will stop when the menopause is established. But who knows how many women have died from cancer and from anemia while waiting for the change of life? Dr. F. F. Simpson frequently has said that "the change of life has never caused one woman to lose one drop of blood from Mother Eve to the present day." There is always some cause for this bleeding other than the mere years of the patient, and it is incumbent on us as physicians not only to ascertain the cause but to correct this widespread and very dangerous belief.

Pathology.—The ovaries are commonly rather large and contain numerous immature follicles without any corpus luteum. In the nullipara, the uterine muscle and endometrium are normal. In the multipara, the uterus is commonly larger than normal, due to infiltration of the muscle with fibrous and yellow elastic tissue, a subinvolution. But there is no relation between the degree of hemorrhage and the amount of fibrous tissue either in the muscle or around the blood vessels.

Treatment.—While the hemorrhage in these cases is due to a disturbance of ovarian secretion, treatment with glandular extract is of very little value. Pituitary extract or pituitrin does help to control the attack, but does not seem to be curative. Corpus luteum would be indicated theoretically, but its use is usually very disappointing.

Radium or x-ray therapy is indicated in those patients who are nearing the menopause. We prefer to restrict the use of these agents to the patients who are forty years old or over. For the younger women, surgery is more conservative, as radiation in sufficient dosage to control the bleeding will cause the premature menopause. For some years, we have been doing a partial hysterectomy, removing the fundus of the uterus at about the level of the insertion of the ovarian ligaments. This would seem to be specially indicated in the multipara where there are associated conditions such as lacerations and retroversion that require operation for their correction at the same time. The advantages of the preservation of the menstrual function do not need argument.

So far, in a limited number of cases the menstrual periods have been regular and either normal or rather scanty in amount, and in only one case has there been a return of the bleeding.

This was in a woman of 30, the mother of five children, who had extensive lacerations and a large, retroverted uterus. She has had a menstrual flow lasting seven to ten days but quite scanty. But even a supravaginal hysterectomy with preservation of one or both ovaries is more conservative than radium treatment.

New Growth of the Ovary.—Either benign or malignant growths of the ovary may cause excessive bleeding, due to disturbance of the ovarian secretion. This may occur even after the menopause has been established for a long time, and while not a common result of growths of the ovary, it ensues at times. The following case illustrates this condition.

Mrs. A., aged 65, was the mother of six children. Her menopause occurred at 50. A year ago she noticed some enlargement of the abdomen. This was diagnosed ascites, the abdomen was tapped three times, and a large quantity of dark fluid withdrawn each time. Three months ago, she began to bleed from the vagina irregularly, the bleeding becoming more and more profuse and constant. Examination showed a large cyst filling the entire abdomen, and the uterus about the size of a 2½ months' pregnancy. Carcinoma of the fundus was suspected, and the entire uterus with the large tumor of the left ovary and a normal atrophic right ovary were removed. Although long past the menopause, the uterus was typically arteriosclerotic, with thick walls and a normal but rather thick endometrium.

Thyroid Gland.—It has long been accepted that there is some relation between the menstrual function and the thyroid gland. This is shown by the increase in the size of the thyroid at the menstrual period and during pregnancy. But when one attempts to correlate menstrual disturbance and thyroid dysfunction, the evidence is most conflicting. It is generally believed that cases of hyperthyroidism are associated with amenorrhea, and hypothyroidism with excessive menstruation. But the exceptions are very frequent. It is not at all uncommon to find the case of true exophthalmic goiter with excessive menstruation, and the hypothyroid case showing an amenorrhea. In addition, the woman who has an amenorrhea apparently from hypopituitarism, the so-called adiposogenital dystrophy, where the two dominant symptoms are obesity and sexual hypoplasia, yield better to thyroid medication than to any other treatment.

Pituitary Gland.—It is known that dysfunction of the pituitary secretion causes obesity and apparently at the same time amenorrhea; also that extract of the pituitary gland causes uterine contractions. But the attempt to explain uterine bleeding as due to disturbance of the pituitary function discloses the inconclusive nature of the evidence.

Pelvic Inflammation

In acute inflammation of the tubes, excessive menstruation is not uncommon. This is even more common where the ovaries also are involved, and is seen at times in peri-uterine inflammation. But bleeding is not a common symptom in these conditions. It occurs usually at one or two periods, is rarely troublesome, and has a tendency to subside as the acute inflammation subsides.

The bleeding is probably caused by the increased congestion due to the inflammation, and rarely requires special treatment.

Uterine Fibroids

Uterine fibroids are one of the most common causes of bleeding. They are most common in the later years of the menstrual life, especially after thirty-five years of age, but may occur earlier. There is no relation between the size of the tumor and the amount of the bleeding. Rather, the location of the tumor with reference to the cavity of the uterus determines the degree of hemorrhage. An uncomplicated pedunculated subserous fibroid, even of large size will often have no influence on the menstruation, while a small submucous tumor will cause excessive bleeding. The pedunculated tumor of the cervix is the cause of most severe and prolonged hemorrhage.

There is undoubtedly a close relation between uterine fibroids and ovarian secretion. This is shown by the fact that these tumors develop only during the menstrual life and retrogress after the normal menopause, or after the artificial menopause induced by the removal of both ovaries or by radium and x-ray treatment. It would seem probable that disturbed ovarian secretion is a decided factor in the causation of the bleeding in these cases, especially as removal of the tumor does not invariably correct the bleeding, and cystic ovaries are frequently found in fibroid cases. But the mechanical factor cannot be entirely ignored. Where the tumor causes an enlargement of the uterine cavity with the coincident expansion in area of the endometrium, an increase in the menstrual flow is found. Also, a small pedunculated cervical fibroid will dilate the cervix, interfere with the proper contraction of the uterus, and so cause bleeding.

The type of bleeding in uncomplicated fibroids is quite characteristic. It begins as a gradual increase in the amount of blood lost in a given time and a prolongation of the flow, and at times the flow finally becomes continuous and very profuse. The hemorrhage from an adenomyoma cannot be distinguished from that from the much more common leiomyoma.

Treatment of Hemorrhage from Fibroids.—This must depend upon several associated conditions, as the age of the patient, the size of the fibroid and its location, and the presence or absence of inflammation of the adnexa or pressure symptoms.

In the uncomplicated multiple fibroids of women of 40 or over, where the entire mass is not larger than a four- or at most a five-months' pregnancy, radium will be very satisfactory. We have found that one intra-uterine application of radium for 1,800 milligram-hours will produce a complete amenorrhea and cause a gradual diminution in the size of the tumors, until at the end of six months the uterus will be normal in size, or almost so. Radium treatment should always be preceded by a diagnostic curettage with immediate examination of the curettings to exclude malignancy. The same precaution would apply to x-ray treatment. The value of this precaution is shown by the following case.

Miss M., aged 42 years, gave a history of gradually increasing menstrual flow both in amount and duration over a period of eighteen months. For the past six weeks the flow had been continuous. Examination showed a slightly irregular, movable tumor, the size of a four-months' pregnancy. It was thought to be a simple fibroid in which radium treatment was indicated. Curettage showed an associated early carcinoma of the fundus, so instead of using radium, an immediate complete hysterectomy was done.

When radium is used, the patient should be told that she may have some bleeding and will almost surely have an annoying leukorrhea during the first six weeks after the treatment. This will prevent much worry on her part, and many telephone calls.

In younger women, radium is contraindicated, as it is in the ovarian type of bleeding, since to control the fibroids it must be pushed to the stage of complete amenorrhea, with all the disadvantages of the premature menopause. Here, operation, especially a myomectomy, is indicated, and even a hysterectomy with preservation of one or both ovaries is preferable to radium treatment.

About two years ago, a woman of thirty, engaged to be married, came in with a smooth fibroid the size of a 3½-months' pregnancy. She had been bleeding too freely for six months. Operation, probably a myomectomy, was advised, but she insisted on having radium treatment. This was given by another surgeon. Six months later she returned with all the symptoms of the menopause, and heartbroken because she would not be married when all chance of childbearing was gone.

We cannot but feel that the radium treatment was not the proper procedure in such a case. Where there are pedunculated tumors, either subserous or submucous, inflammation of the adnexa, or pressure symptoms, operation is the treatment of choice.

Retroversion of the Uterus

An uncomplicated retroversion practically never causes either a menorrhagia or metrorrhagia. During the first few periods after a pregnancy, especially if there is a retroversion, excessive bleeding is common. In these cases there is commonly a subinvolution which is the cause of the bleeding. This is one of the few conditions, other than gonorrhea, where the time-honored local treatment will be of more benefit to the patient than medical treatment. Correction of the displacement by a pessary usually corrects the bleeding.

Changes in the Endometrium

There is no subject in gynecology, and one might almost say in medicine in general, where our opinions have undergone such a complete change in recent years as in that of endometritis. The cases formerly classed as hypertrophic endometritis are merely those of normal premenstrual hypertrophy. We now believe that there are very few changes in the endometrium that cause bleeding.

Localized polyps, either in the uterine cavity or projecting from the cervix, are at times found, and they usually, but not invariably, cause metrorrhagia. This is not profuse, and is about the only condition, other than retained membranes or placental tissue, where curettage will be of benefit.

Rarely, a case is seen of such marked thickening of the endometrium that it can be classed as an adenoma. The bleeding is excessive and prolonged, and will not yield to medication of any kind. Formerly, these patients were subjected to repeated curettage, with benefit each time for only a few months. Finally a hysterectomy was necessary. In the two cases we have seen, radium application for a short time (600 milligram-hours) has cured the patient.

Conclusions

Disturbance of ovarian secretion is the most common cause of uterine bleeding in the adult. The menopause of itself is never a cause of bleeding. Bleeding from uterine fibroids is often due to ovarian dysfunction. Curettage is of value only as an aid to diagnosis. Change in the endometrium is one of the rare causes of bleeding.

HEMORRHAGE FROM CARCINOMA, AS DISTINGUISHED FROM POSTMENOPAUSE BLEEDING

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There are two recognized forms of uterine cancer; namely, those affecting the cervix and those involving the fundus. These are distinct varieties that produce different symptoms, require different treatment, and offer a different ultimate prognosis. A comparison of these tumors shows the following points of differentiation:

CARCINOMA OF THE CERVIX

Age most common, 38 to 55; average age, 48.
Rare in nulliparæ.
Five times more common.
Hemorrhage worth 90 as a diagnostic symptom.
Discharge worth 10 as a diagnostic symptom.
Discharge thick, foul, dark, and blood-stained.
Clinical varieties: ulcerative, papillary (cauliflower), and interstitial.
Histology: epidermoid and glandular.
Pelvic examination: generally an easily demonstrable lesion.

CARCINOMA OF THE FUNDUS

Age most common, 45 to 65; average age, 52.
As common in spinsters as in nulliparæ.
Five times less common.
Hemorrhage worth 75 as a diagnostic symptom.
Discharge worth 25 as a diagnostic symptom.
Discharge thin, watery, foul, and irritating.
Clinical varieties: everting, inverting.
Histology: always adenocarcinoma.
Pelvic examination: uterus sometimes enlarged, but often normal in size and negative to ordinary pelvic examination.

As observed in practice, the chief subjective symptom in both cervical and fundal cancer is atypical bleeding. The importance of early diagnosis has been stressed repeatedly. It is sufficient here to state that in spite of the progress made in treatment, the one greatest prognostic factor in any given case is early diagnosis. With an average of two or three out of every four cases of cervical carcinoma dying of the disease within five years, despite any form of treatment employed, the necessity for an early recognition of the condition is apparent. In the last analysis of 524 cases of cervical carcinoma seen at the University Hospital, 149 were alive at the end of 5 years.

In enumerating the symptoms of cervical carcinoma, pain, loss of weight, cachexia, etc., have purposely been omitted, since these symptoms practically always indicate an advanced stage and a hopeless condition. It is unfortunate that the cervix is so poorly supplied with sensory nerves, for no symptoms brings patients to a physician so quickly as pain. Pain is noticeably absent until the disease has extended beyond the cervix or until cellulitis has developed. All surgeons agree that cervical carcinoma in the early stages is rarely observed.

The hemorrhage resulting from cervical cancer, if not typical, is generally at least suggestive, and in common with carcinoma of the fundus possesses three distinct characteristics; to wit, it is intermenstrual, it is prone to follow trauma, it is progressive. It is questionable if menstruation is influenced by the presence of cancer. It is true that occasionally a period appears to be prolonged, but this is probably explained by the occurrence of a hemorrhage either just before or just after a menstrual period, which has the effect of apparently lengthening the normal flow. Occasionally cases are observed in which the first symptom is a moderately massive hemorrhage. This generally occurs in carcinoma of the interstitial variety, where the disease has its origin in the depth of a cervical gland, and may become quite advanced before breaking through the surface of the portio or invading the cervical canal. In this variety, the lesion may erode a large blood vessel, the first manifestation being a severe and more or less uncontrollable hemorrhage. This, however, is relatively infrequent. Generally the disease manifests itself by "spotting." As the condition progresses, this bleeding becomes more frequent and profuse, and in a relatively short time may necessitate the constant wearing of a pad. The hemorrhage is likely to follow trauma of any kind, such as may be induced by the taking of a douche, vaginal examination, coitus, etc. The blood is bright red in color, and the term "spotting" employed by the laity, is descriptive of the milder degrees. The hemorrhage is not attended by pain and often comes on without apparent cause.

Vaginal discharge is much less valuable as an early symptom. In the very early stages it is thin, but soon becomes viscid, dark, offensive, and often blood-streaked. The fact that this form of cancer is infrequent in nulliparæ and that the laceration which is generally present itself produces more or less leukorrhea further mitigates against this as an early diagnostic symptom. In other words, many of the patients have suffered more or less from vaginal discharge for years prior to the development of the carcinoma.

At first sight, the fact that the disease is so rarely recognized in the early stages is remarkable. The cervix is an easily accessible structure, and a suspicious ulcer or papilloma that bleeds easily upon touch, and a portion of which can readily be removed for histologic examination, should make possible an early diagnosis. An

analysis of over 259 cases of cervical carcinoma that have been treated by me during the last three years at the Philadelphia General Hospital, however, brings out the point that the average patient does not seek medical aid until nearly three and a half months after the appearance of the initial symptom.

Cancer of the cervix is most frequent at about the menopause. Nine women out of ten attribute the bleeding incident to the early stage of cancer to a menstrual irregularity. As the menopause is ushered in, there are irregularities of the menstrual flow, so that the average woman whose menses are irregular, passes through the menopause without difficulty and spreads the belief that irregularities are to be expected at this time and that the condition will eventually disappear. Too often the general practitioner is censured for delay in these cases, when the truth is that the patient had not sought treatment until the lesion became advanced.

The difficulty in diagnosing fundal carcinoma is enhanced by the fact that the disease develops in a region not available to palpation or inspection. Furthermore, the ordinary pelvic examination may be entirely negative. A suggestive sign is that, after vigorous bimanual examination of the uterus, a slight trickling of blood is prone to occur. It is generally believed that carcinoma of the fundus of the uterus offers an excellent prognosis provided hysterectomy is performed.

Cancer statistics often are exceedingly misleading. The two most important points to be considered are the percentage of 5-year cures that have been obtained in proportion to the total number of cases seen during the specified period, and the measures that have been adopted to secure the results.

Among 105 consecutive cases of fundal carcinoma seen at the University Hospital, 34 per cent were alive at the end of three years, and about 60 per cent of the early cases treated by hysterectomy survived this period. From this, it becomes apparent that a form of carcinoma that is fatal in nearly two-thirds of the cases by no means presents a favorable outlook.

Biopsy should be performed without loss of time in all cases of suspicious cervical lesions. Unfortunately, either the characteristic ulcer or the papilloma that bleeds readily on touching it is generally present, and the diagnosis is then unmistakable. In this connection, it must be remembered that both syphilis and tuberculosis may produce lesions closely simulating cancer. These conditions are, however, rare in the uterus, and in case of doubt the diagnosis is easily arrived at with the aid of a microscope.

In suspected cases of fundal carcinoma, curettage offers a practically certain method of arriving at a correct diagnosis. The Clark test is of distinct value, and has the advantage that it may be utilized as an office procedure. It is based upon the fact that fundal carcinoma is a vascular, friable growth that bleeds readily on touch. The method consists in thoroughly cleansing the external genitalia, vagina, and cervix with an antiseptic solution, and then, under sight, passing a sterile sound to the fundus of the uterus, gently manipulating the point of the instrument over the entire surface of the endometrial cavity. If a carcinoma is present, a small trickling of blood will be observed to follow manipulation. Although other pathologic conditions may cause bleeding as the result of this test, the absence of bleeding is strong presumptive evidence that cancer is absent. I have employed this test frequently, and have never known it to fail when carcinoma was present. Ewing has suggested taking smears from the fundus of the uterus, and thus demonstrating in a proportion of cases the presence of cancer cells or of fragments of the tumor. I have employed this method in conjunction with the Clark test, and have occasionally been able to identify cancer cells. The identification of isolated cancer cells is, however, somewhat difficult. Kelly employs an extremely small curet to obtain the tissue, and utilizes this method as an office procedure without the aid of anesthesia.

Absolute asepsis is essential in the employment of any of these tests. The great advantages of the Clark test are that it involves no loss of time, requires no especial skill or experience, and does not call for the use of expensive apparatus. While this test has distinct limitations and is not an absolutely positive one, if it were more widely employed, doubtless many early cases of fundal carcinoma would be detected that otherwise go unrecognized until the disease becomes advanced.

The following figures show the percentage of correct clinical diagnoses in a series of cervical carcinomata applying to the gynecologic department of the University Hospital from 1919 to 1923:

CARCINOMA OF THE CERVIX

Total number of cases	253
Epidermoid	219
Adenocarcinoma	34
Stage I	41
Stage II	41
Stage III	45
Stage IV	109
Stage V	17

Clinical diagnosis correct and positive	206	(81.4%)
Clinical diagnosis of carcinoma (doubtful)	29	(11.4%)
Clinical diagnosis benign, but histologic examination showed malignancy	6	(2.3%)
Clinical diagnosis malignancy, but histologic examination showed benign	3	(1.5%)

These cases were checked with the greatest care, both in the laboratory and in the end-result department, and, as will be seen from the figures, the degree of clinical error is extremely small—less than 4%. A similar study of the carcinomata of the fundus reveals a different condition:

CARCINOMA OF THE FUNDUS OF THE UTERUS

Total number of cases	101	
Early stage	24	(23.7%)
Moderately advanced stage	53	(52.4%)
Advanced stage	24	(23.7%)
Clinical diagnosis correct and positive	57	(56.4%)
Clinical diagnosis doubtful	24	(23.7%)
Clinical diagnosis benign, but histologic examination showed malignancy	20	(19.8%)
Of these, 15 were diagnosed myoma		(14.8%)
2 were diagnosed metrorrhagia myopathica		(1.7%)
2 were diagnosed hyperplasia		(1.9%)
1 was unsuspected cancer.		(0.9%)
Clinical diagnosis, cancer of cervix, but found to be fundal in origin	1	(0.9%)

It will be observed that in nearly 20% of the cases the malignant nature of the lesion was unsuspected prior to the histologic examination.

A striking feature in the series of 20 cases of fundal carcinoma studied that were not recognized by clinical methods is that in 15 or 75% of mistaken diagnosis, the symptoms of carcinoma were masked by those produced by a pre-existing uterine myoma. This also emphasizes the necessity for performing a diagnostic curettage as a preliminary step to all irradiation treatments for myomata.

The recognition of either fundal or cervical carcinoma is considerably influenced by the age of the patient at the time the symptoms develop. It has been definitely established that irregular bleeding appearing a year or more after the menopause is much more ominous than the same condition developing earlier. The only safe procedure in these cases is to regard such bleeding as of malignant origin until it has been proved to be otherwise. An analysis of the cases studied shows that 82% of postmenopausal bleeding is due to malignant neoplasms. It is worthy of note that in this series there were a number of patients who stated that vaginal bleeding was present, but investigation showed that the hemorrhage was due to hemorrhoids, and two cases in which the reverse was true, both proved to be fundal carcinoma. A tampon placed in the vagina will positively differentiate this point. It is conceivable that the findings resulting from a diagnostic curettage may be misleading. Thus, a carcinoma in the early stage may be present in the extreme angle of a cornu of the uterus, where the curet cannot reach the growth. This is especially likely to be the case where obstructing submucous myomata are present.

The surgeon must always bear in mind that the pathologist cannot make a positive diagnosis of carcinoma unless a specimen of the tissue is received at the laboratory. Further, confusion of specimens, either in the laboratory or in the operating room, may lead to disastrous results, and lastly, the pathologist may fail properly to interpret the histologic picture. At the University Hospital, in all cases of diagnostic curettage, we emphasize the necessity of employing a small, sharp curet, going over the entire endometrial cavity thoroughly.

The specimen is placed directly from the vagina into a small bottle containing a 4% formalin solution, the bottle previously being sterilized with the instruments. A label indicating the name of the patient is immediately attached to the bottle by adhesive plaster. It is practically impossible for the adhesive plaster to become detached or lost before it reaches the laboratory. In the laboratory, there is a system of triple checking to prevent confusion of specimens. A rapid paraffin method has been developed that enables a histologic examination to be made in sixteen hours. Furthermore, in all suspicious cases the pathologist should be advised of the possibly malignant nature of the specimen. In this event the paraffin block is cut at different levels, thus making certain that a part of every piece of tissue submitted for examination is included. It goes without saying that the pathologist must be competent and familiar with the varying phases of the normal endometrium, as well as with pictures produced by pregnancy and by benign lesions. An incompetent pathologist is infinitely worse than none, for errors may lead to the most disastrous results.

Some of the possible sources of error that may arise in formulating diagnoses from specimens secured by curettage have been emphasized. If care is exercised, these errors are extremely unlikely to occur. Their possibility should, however, be constantly in mind. In the gynecologic department of the University of Pennsylvania many thousands of specimens of curettings have been examined. A careful check-up, both by clinical and end results, has been

made, and we have never seen a case that was diagnosed as carcinoma by histologic methods that was not confirmed if hysterectomy was performed; nor have we any knowledge of a case in which the diagnosis of a benign condition was made and that was subsequently proved to be malignant. It is possible that the latter may have occurred, but in view of the fact that a most thorough routine check-up on end results is carried out, its occurrence seems unlikely. Last year our end-result check-up showed 98% for all malignant conditions and 89% for all others.

CONCLUSIONS

1. Hemorrhage is the most important diagnostic symptom of cancer of both the cervix and fundus.

2. Cancer hemorrhages are intermenstrual, prone to follow trauma, progressive, and painless.

3. Neither cancer of the cervix nor of the fundus influences menstruation. Irritation or ovarian involvement may produce menorrhagia, and accidental hemorrhage just before or after a period may produce an apparent prolongation.

4. Cancer of the cervix and fundus are both often advanced before seeking medical aid.

5. One in four cervical and one in three fundal cancer patients survive five years.

6. All suspicious cases should be viewed as malignant until proved otherwise.

7. Biopsy or curettage is the most reliable diagnostic method in the early cases, according to the site of the suspicious lesions.

8. Lacerations of the cervix, especially those associated with erosion or cervicitis, should be repaired prior to the cancer age.

9. Women, particularly multiparæ, should be examined periodically during the cancer age, especially during the menopause.

ABSTRACT OF DISCUSSION

ON SYMPOSIUM ON UTERINE BLEEDING

FRANK C. HAMMOND, M.D. (Philadelphia, Pa.): In adolescent hemorrhage, the question of syphilis must be taken into consideration.

Eight years ago, two fifteen-year-old girls were admitted to the Samaritan Hospital, Philadelphia. One had been bleeding for over a year, the other for almost three months. Both had had medical treatment from several physicians, and the last one to be called in, in each instance sent the patient to the hospital with a request that curettage be done. Pelvic examination being negative, a blood Wassermann was taken, with a four-plus result in each case. Arsphenamin was administered intravenously, and the girl who had been bleeding for a year stopped within twenty-four hours after the first injection, while the other stopped within forty-eight hours. Following appropriate treatment, neither has had a recurrence during the period of eight years.

DR. CHALFANT (in closing): It is extremely important that operation should follow immediately after diagnostic curettage, for it is unwise to stir these cases up and take chances of spreading the disease. It is only in very rare cases that a laboratory report is necessary. While we always have this done, usually the diagnosis can be made from the gross appearance of the curettings.

EIGHT CASE REPORTS*

DIABETES IN EIGHT MEMBERS OF A FAMILY, WITH SIX DEATHS IN COMA†

RICHARD A. KERN, M.D.
PHILADELPHIA, PA.

The case here reported affords a striking example of familial and hereditary incidence of diabetes mellitus.

Mr. A. N., a Jew 35 years old, who consulted me in February, 1925, gave this history: He was one of four children. Seven years ago, two sisters died in diabetic coma in one week; and six weeks later, the third sister died of the same disease. All three were young—17, 19 and 23 years—and in each instance the illness lasted only a few months. At that time, the family doctor examined the urine of the brother, and found it to contain a trace of sugar. However, as he had no symptoms, he refused to diet consistently, although he had his urine examined from time to time, with the finding usually of a positive and occasionally of a negative reaction for sugar. In September, 1924, he began to lose weight, and in five months was reduced from 185 to 135 pounds. This, with moderate polyuria and slight itchiness of the skin, was his complaint when he consulted me.

The patient's mother died in diabetic coma, at the age of 32, after an illness of two years. She, also, was one of four children. Her brother and one sister died at about the age of 40 in coma, each having been ill for several years. The remaining sister, now in her fifties, was diabetic, and was recently under treatment in a Newark Hospital because of threatened gangrene. Of the history of his grandparents he knew nothing, nor of the children of his mother's siblings. None of his father's family was diabetic. The patient's two children were living and well.

Obesity was a marked family characteristic, being present in seven of the eight individuals here referred to. The patient himself was of this habitus, being only 5 feet 4 inches tall, and

* Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

† From the Medical Division of the Hospital of the University of Pennsylvania.

having formerly weighed 185 pounds. Only one sister of the patient was of normal weight. There was no history of goiter or kidney disease in the family.

Physical examination of the patient showed nothing of note. A specimen of urine voided at the time of the first visit contained over 2 per cent of sugar and a moderate amount of acetone, but no diacetic acid. He was advised to enter the hospital for treatment, but refused to do so, and after two more visits did not return.

That heredity may play a part in the incidence of diabetes has long been known. The figures given by Joslin[1] are typical of those in the literature. In his series of 2,800 diabetics, the combined hereditary and familial incidence of the disease was 21%; while, of 500 nondiabetic patients, only 5% gave a positive family history of diabetes. Hoogslag[2] has even noted a 43% familial occurrence in his series of 207 diabetics. The literature contains many striking individual instances of the condition. Landis[3] has recorded a family in which a diabetic mother transmitted the disease to the five blonde but not to the four brunette children. Allen and Mitchell[4] reported diabetes in eleven of twelve children of a certain man by his wife, and also in a thirteenth illegitimate child by another woman.

Time does not permit a discussion of the possible mechanism of heredity in diabetes. We may speak perhaps of an inherited tendency to the disease, but we must also bear in mind that family habits of eating and drinking certainly play a part, and this leads to the reason for reporting this case. Merely to record another instance of hereditary and familial diabetes serves no great purpose, since the literature already abounds in such. It is worth while, however, to emphasize the frequency of this condition and the consequent duty of the practitioner in prophylaxis. It is the duty of all of us to inform our diabetic patients of the familial tendency that does occur in this disease, to pass along that information to their relatives, to advise the latter in habits of diet, to warn them against the danger of overconsumption of sugars and starches, and of the danger of obesity, and to examine their urine from time to time. In this way, it may be possible to detect diabetes early or even to prevent the disease in some individuals.

1. JOSLIN, E. P.: *The Treatment of Diabetes Mellitus.* Lea and Febiger, Philadelphia and New York, 1923, p. 127.
2. HOOGSLAG, W.: "Experience With 250 Cases of Diabetes." *Nederlandsch. Tijdschr. v. Geneesk.*, 1922, II, 1934-51.
3. LANDIS, H. R. M.: "Familial Diabetes." *Trans. Assn. Amer. Phys.*, 1921, XXXVI, 293-295.
4. ALLEN, F. M., AND MITCHELL, J. W.: "A Case of Hereditary Diabetes." *Arch. Int. Med.*, 1920, XXV, 648-660.

DIABETIC COMA, WITH GANGRENE OF FOOT TREATED INTENSIVELY WITH INSULIN IN THE PATIENT'S HOME

J. W. ELLENBERGER, M. D.,
AND
CLARENCE R. PHILLIPS, M.D.
HARRISBURG, PA.

Mrs. B. S., aged 58 years, has had diabetes mellitus for at least sixteen years, and has been under the care of a skillful physician. She has had several infections in the last five years which involved the feet. Fifteen years ago, she weighed 286 pounds. For the last three years, she has weighed 193 to 197 pounds. Upon a diet of 2,100 to 2,300 calories, with 75 to 80 grams of carbohydrate. She has been a careful patient, and for three years had been free from glycosuria except upon rare occasions. Albuminuria, in traces, has been constant. No insulin was administered prior to the attack under consideration.

Late in November, 1924, the patient pared a corn until it bled. Infection followed. December 4th, she came under the care of the writer. She was then in the grasp of a severe acidosis of four days' duration, and was in a stupor from which she could be aroused only with difficulty. She vomited blood and bile-stained material, and had diarrhea, passing bloody stools, involuntarily. The temperature was 97° to 99°; the pulse thready, and around 120 to 130; the respirations 24, and deep. Because of nausea, the only food she had taken for three days had been cambric tea, the white of one egg, and champagne. She was sweating profusely. Urinalysis showed albuminuria; pus cells; granular casts; sugar, 2.5%; diacetic acid, 4 plus. The blood sugar was 0.6, the carbon dioxid in expired air, 15.

She was given 55 units of insulin in divided doses, and a diet of carbohydrate, 68; protein, 14; fat, 4—a total of 364 calories—together with several pints of water.

On December 6th, she passed 1,700 c.c. of urine which showed diacetic acid, 1 plus; and sugar, 3½%. The blood sugar was 0.67, the carbon dioxid, 20. She was given 75 units of insulin, and a diet of carbohydrate, 95; protein, 19; fat, 44—853 calories.

On December 8th, the urine was free from diacetic acid and sugar, the blood sugar was 0.59, and the carbon dioxid, 40. Insulin, 80 units, was administered, together with a diet of carbohydrate, 85; protein, 27; fat 34—848 calories.

December 9th, the patient was restless, but her mind was clearing. The blood sugar was 0.43.

After the 7th, her urine remained free from sugar and from diacetic acid, the carbon dioxid in the expired air remained normal, and the blood sugar gradually lessened, reaching 0.16 on the 14th, 0.14 on the 19th, and 0.12 on February 24th. All of the blood-sugar tests were made at 11 a. m.—two hours after her breakfast.

The diet was gradually increased to carbohydrate, 119; protein, 109; fat, 184—2,568 calories, which was reached on December 24th. This was continued for a month, and then increased to carbohydrate, 174; protein, 116; fat, 207—3,029 calories. At the same time, the insulin was gradually decreased until February 24th, when it was discontinued for two and a half months.

On May 7th, the wound in her foot was not healing. Her urine had remained free from sugar and diacetic acid, but had become heavily laden with albumin. It contained many pus cells and some granular casts. The wound was reopened, and a few drops of pus evacuated. Six units of insulin were given daily, and the diet changed to carbohydrate, 118; protein, 91; fat, 201—2,633 calories. Immediately the wound improved, and the pyuria almost disappeared.

At the time of writing, the patient weighs 187 pounds, her psychic condition is excellent, she feels well, and is able to walk upon her foot. She receives nine units of insulin daily, and her diet consists of carbohydrate, 178; protein, 71; fat, 151—2,355 calories. Her urine is free from diacetic acid and sugar, but shows a small amount of albumin, some pus cells, and an occasional granular cast. Her dose of insulin had been but five units until four days ago, when an error in diet necessitated an increase.

RECURRENT AURICULAR FIBRILLATION RATIONED ON QUINIDIN SULPHATE

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The patient, a matron, aged 52, who had acute rheumatic fever at the age of 17, was seen first five years ago. She had a double mitral lesion in which incompetence appeared to be the major trouble. The pulse was that of auricular fibrillation, the apex rate was 128, the radial 90. There was no edema and but little dyspnea.

She had a peculiar pain like a "hot streak" involving the left pectorals, left neck, axilla, arm, and extending under the left scapula. Throughout the past five years some degree of this pain was always present during fibrillation, but disappeared during the regular rhythm. The blood pressure during the latter averaged 140/85. The urine was always normal.

The first attempt to abolish the fibrillation by quinidin sulphate failed because, as we learned from subsequent experience no dose was given during the night. Digitalis kept the heart rate down fairly well, and the patient was fairly comfortable except for some degree of pain.

In the autumn of 1921, she was very uncomfortable from the pain and dyspnea. The heart beat was totally irregular, apex 120-128, radial 80, showing thus a pulse deficit of 40-48. She was put to bed, and the preliminary doses of quinidin sulphate, grains 2 twice a day, were given. After that, grains 4 were ordered every 3 hours day and night, and the regular rhythm returned when she had taken 6 grams.

The wisdom of keeping her in bed throughout the treatment was shown by her experience on the fifth night. She felt a sudden sense of suffocation and fainting, and following this she noted that her pulse was regular. Probably, as the auricular rate, slowing under quinidin, approached 200, the ventricular rate temporarily speeded up to meet it. This may lead to syncope.

During the summer she spent two months at the seashore. For one month she took no quinidin at all, but the second month she took one to two 2-grain quinidin capsules a day. While these amounts are small, it is improbable, in her case, that the effect was psychic. During this summer she made an air-plane flight without mishap. Cardiac patients out of hand seem to turn to this amusement. She also took a trip to Bermuda.

During this year there were many sharp recurrences of rapid fibrillation, but it was abolished always by from one to three grams of quinidin sulphate, taken in divided doses.

During 1923, she gained 20 pounds in weight. The ration of quinidin this year was larger; 4 grains morning and night were necessary, in town, to keep the heart beat regular. At the shore, half that amount would suffice. Repeatedly she found that if she missed her evening dose she would awaken at 6 a. m. with clutching in the throat and find her pulse totally irregular. On exertion, she frequently had spells of fibrillation, but a few doses of quinidin, grains 4 given at 3-hour intervals, abolished the irregularity. These attacks of total irregularity and regular rhythm were checked up over and over with electrocardiograms.

The average prophylactic dose remained about 8 grains—4 grains at 10 a. m. and again at 10 p. m. Once she ran out of quinidin, and had a

sharp attack of fibrillation to remind her of its lack.

During sickness in the house she had to help at all sorts of housework. She suddenly realized that she had taken an ounce of quinidin sulphate in 20 days—that is, 24 grains a day. She did this to prevent recurrent fibrillation, which always tended to appear during exertion. Under these large doses, she had but one sharp attack of fibrillation in 5 weeks. The only disturbance she noted from this dosage was a little buzzing in the ears at times. During this period, she often took simply the powdered drug, thus guessing at the dose. This may explain the occasional buzzing in the ears.

During 1925, the patient has remained much the same. At present, it takes 6 grains of quinidin sulphate at 10 a. m. and at 10 p. m. to maintain a regular rhythm.

In this patient, quinidin has rendered the pulse regular, kept her free from pain—an unusual complication in auricular fibrillation—and abolished the recurrent attacks of acute fibrillation with rapid rate. The rate of the regular rhythm has usually been near normal, but occasionally after exertion, physical and mental, she will have a rapid regular rate (100-150) for a time. More often, under such stress, a paroxysm of fibrillation is precipitated. The passing from irregular to regular rhythm in this patient has recurred scores of times with no embolic symptoms.

In two other patients, the maintenance of a regular rhythm by such a ration of quinidin regularly serves to keep the patients edema-free. Their balance is such that, let auricular fibrillation persist, and edema of the legs appears. Abolish the fibrillation, and the legs clear up. In other patients distressed by premature beats and short runs of extra-systolic tachycardia, the ration of quinidin has kept the pulse regular and the patient comfortable.

PELLAGRA IN PENNSYLVANIA*

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DANVILLE, PA.

The patient, Mrs. R. S., aged 47, wife of a farmer, was admitted to the Geisinger Memorial Hospital, September 24, 1921, complaining of "diarrhea, skin disease, and loss of appetite." She was the mother of three healthy children, the youngest of which was ten years of age. Her menstrual periods had been irregular for one year.

For three years her appetite had been very poor, and for the past two years she had eaten barely enough for maintenance. She had taken practically no eggs, milk, or butter. Weakness was progressive, and for seven weeks before admission, she could hardly get around. Three and one-half months before admission, a red rash appeared on the back of the hands and extensor surface of the forearms; also on the face and neck. The rash at first was very red, followed several weeks later by fading and desquamation. At the same time, the patient began to suffer with an enteritis which caused six or seven stools a day. For about three months, mental lethargy had been pronounced. The condition of the mouth was so bad that the family physician, Dr. J. W. Gordner, of Jerseytown, had referred her to the Dental Department for treatment.

Physical examination: Upon admission, emaciation was rather marked. Mental reaction was very sluggish, and at times, orientation was imperfect. She was depressed and cried a great deal. There was a fairly sharply defined bronzing on the dorsal surface of the hands and extensor surface of the forearm, about the cheek bones, and irregularly over the neck.

Sordes was heavy; the gingiva was red, spongy, bled easily, and pus could be expressed in many places. There were apparently several periapical abscesses, but this could not be confirmed, as the patient was too sick to have dental x-rays made.

There was a tachycardia of about 104, but the condition of the heart muscle seemed to measure favorably with the general state of body preservation. Blood pressure was 140/75. Nothing was found in the lungs, abdomen, or pelvis worthy of noting here, except a slightly palpable liver.

Pupillary, biceps, triceps, abdominal, patellar and tendo-achillis reflexes were all present, equal, and not exaggerated. There were no sensory disturbances.

The laboratory reports on urine and blood were negative, except for a positive Wassermann. It seemed improbable that the patient had syphilis, judging from the history of a healthy family of children, the physical findings, and the course of her illness.

Clinical course: The temperature varied from 99.2 to 102. For the first few days the patient seemed to improve on a diet of milk, eggs, meat, and fresh vegetables. Restlessness was marked from the beginning, and she slept very poorly. She moaned and cried a great deal, and at times was frankly irrational. On October 1st, bleeding from the gums began, and continued till her death which occurred twenty-four hours later.

*From the Department of Medicine, Geisinger Memorial Hospital, Danville, Pa.

During the last day, she was drenched continuously from the profuse sweating of a cold, clammy type so often seen in collapse.

Autopsy showed very little beyond the emaciation. The pericardium contained 250 c.c. of clear fluid. The liver was enlarged to four fingers below the costal margin, which showed microscopically fatty infiltrations and chronic degenerative hepatitis. The spleen showed chronic passive congestion, and the kidney a chronic arteriosclerotic nephritis. Atrophy was especially pronounced in the mucosa and musculature of the stomach and intestines.

Comment: The dermatitis, diarrhea, dementia, and clinical course make this almost a textbook picture of pellagra. The etiology can be attributed to the patient's failure to take proper food over a period of about three years. The reason for this initial loss of appetite could not be determined. It is the habit of many farmers of this section to sell their butter and use synthetic substitutes, though this was not true in this instance.

Another patient developed pellagra in spite of an unusually well-balanced fare, for the simple reason that she would not eat for fear of some epigastric distress which food sometimes caused. In fact, a limited experience suggests that pellagra in Pennsylvania is due to dietary indiscretion, and not to a deficiency of food on the patient's table.

Treatment: Since it is known that pellagra is a deficiency disease, deficiency chiefly of fresh milk, meat, and butter, the treatment usually resolves itself into dietary care. In extreme cases, however, the treatment is more complicated, as the gastro-intestinal tract is often in such a condition that proper food can not be tolerated. In these cases, milk is perhaps the greatest standby. In addition to this, the extreme patient is in no mental condition to coöperate in the treatment. It has recently been shown by Goldberger and his collaborators, that dried brewer's yeast in ½- to 1-oz. dosage, three to six times daily is of great benefit, especially in the late cases. Arsenic in the form of cacodylate of soda, given hypodermatically, seems to help in some cases.

Incidence in Pennsylvania: A recent survey of the total number of patients and the incidence of pellagra in the general hospitals of Pennsylvania reveals the fact that of 2,679,050 patients from 1913 to 1923 inclusive, only 44 pellagrins were diagnosed, or one case in approximately 61,000. During the same period, only 39 cases were reported to the Department of Health at Harrisburg. At the Geisinger Hospital, in the last 13,000 patients, I have seen six cases of pellagra (a seventh was not admitted), or one pellagrin to approximately 2,200 patients. It is quite likely that the disease would be recognized more frequently if we were on the lookout for it.

SYPHILITIC CIRRHOSIS OF THE LIVER IN A BOY OF FIFTEEN

ADAM J. SIMPSON, M.D.
CHESTER, PA.

E. E., a white boy, aged fifteen years, was admitted to the Chester Hospital on October 12, 1924. His chief complaint was painful swelling of the abdomen.

The father had died two years before, with a diagnosis of syphilis, and the entire family—mother, sister, and one brother—gave positive Wassermann reactions. The brother was a neurosyphilitic with marked dementia.

Congenital syphilis in the patient was diagnosed at 8 years of age, when he had a sore mouth and was blind for two months, but improved under treatment. Two years later, he developed marked ascites, and 4,500 c.c. of fluid was obtained by paracentesis. He was given a course of neoarsphenamin and mercury, and improved enough to enter the public school, although he was sent home after a few days.

When admitted to the hospital, his face was puffed, pale, and pasty looking; his arms and legs thin; his skin dry; his hair very thin, and there was no axillary or pubic hair. The pupils were large, equal, and regular in outline, and were active to light. The eye-ground examination showed general cloudiness of the field, with tortuous vessels, and the wall outline of the blood vessels looked blurred. The ears were normal. The nose was decidedly saddle-shaped. The teeth were in bad condition. The upper incisors were peg-shaped and notched. The pharynx was edematous and covered with membrane. The soft palate was eroded, with raw edges. Many cervical glands were palpable. The chest wall was thin and hyperresonant, shading to dullness in the bases. The breath sounds were harsh bronchial, with bubbling râles in the right base. Expiration seemed prolonged on the right side. The heart boundaries were normal. A systolic murmur was heard, but no thrill. The abdomen was very large and flattened, with distended veins above the umbilicus. There was flatness in the flanks, with a marked fluid wave on percussion. There was no edema of the lower extremities. All the reflexes were exaggerated.

The Wassermann reaction was positive. A blood count showed 4,500,000 red, and 24,000

white cells. Nonprotein-nitrogen was 70, and the creatinin test was 1.7. The urine report was: albumin, a heavy cloud, with many hyalin and heavy granular casts. With a fluid intake of 1,000 c.c., his average output was 300 c.c. He appeared at first to respond to treatment, but developed epileptiform convulsions, passed into coma, and died twelve days after admission.

Necropsy report: Heart and aorta normal in size and no gross lesions. Right lung firmly bound down to chest wall posteriorly, and attached to the diaphragm by a thick band of adhesions. This band extended into the lung tissue. The lower lobe of right lung showed several large, grayish-white nodules. Some of these were necrotic gummata. From the site of these gummata, the band of adhesions extended to the diaphragm and into the liver substance. The left lung, grossly, was normal.

The abdomen contained a large amount of clear yellowish fluid. Stomach and intestines, grossly, were normal.

The spleen was slightly enlarged and showed passive congestion. The gall-bladder and pancreas, grossly, were normal.

The liver was about twice the normal size and nodular throughout the organ. The nodules were hard and of various sizes. On section, the liver was firm, and the cut surface was spotted with hard, whitish masses, varying in size, largely supplanting the normal liver tissue and obliterating the outlines of the lobules. In addition to this fibrosis, several small gummata were found.

The kidneys were about twice the normal size. The capsules stripped easily, and were glistening in appearance. On section, the tissue was firm, the medulla and cortex both having a pale cloudy appearance. Both were increased in thickness, and this cloudy appearance was general.

On microscopic examination, the lungs revealed multiple gummata with extensive necrosis. There was marked round-cell infiltration about the necrotic areas. No histologic changes in the heart or aorta were noticed. The liver showed numerous gummata with irregular generalized fibrosis. The spleen showed hyalization of the malpighian bodies. In the kidneys, a marked tubular nephritis was found, with tubules in all stages of degeneration. Some glomerular destruction was noted, but less than in the tubules.

Comment: It is worth noting that there was undoubtedly an infection of the family by the father. The fact that the nervous system was predominantly involved in the brother, while the mother and sister had no manifestation save a positive Wassermann, and the boy in this case had no symptoms of a nervous lesion, is interesting. Another feature is that the liver showed an irregular fibrosis. The resulting portal strangulation produced an ascites, as in portal cirrhosis, the pathological changes being scarring subsequent to gummata, and inflammatory infiltration, the ascites, jaundice, etc., varying with the mechanical conditions.

This type of liver was first described by Gubler in 1852. In 1904 a more exhaustive account was given by Hochsinger, and it is now definitely called by MacCallum "syphilitic cirrhosis."

HEMOCHROMATOSIS

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Miss H. G. R., aged 28 (when first seen in 1921), presented as her chief complaint pain above the right eye. Her family history was unimportant. Her birth, infancy, and development were normal except for eczema of the face, and the intense pink staining of linen and white enamel ware by the urine. She had the usual exanthemata without unusual incident, and suffered much from headache, frequent "colds," and was always very susceptible to cold. She never could tolerate milk or eggs comfortably, had an unusual taste as to food, and lived on a monotonous and restricted diet.

Her illness dated back to 1910, to what was probably an attack of right sinusitis. Similar attacks occurred in 1916, 1917, 1918, 1921, 1922, and 1924. In all this time, she never was well and strong, was pale, suffered numerous attacks of nausea and vomiting associated with head pain, and was under the constant care of her mother. She survived a severe attack of bronchopneumonia in February, 1922.

Physical examination showed unusually good nutrition, pale skin, atrophic rhinitis, and thyroid fullness, but nothing else of importance.

The laboratory findings were: *Urine*—very high color. *Blood,* varying as follows during several years of observation—R. B. C. 3,200,000 to 3,700,000; W. B. C. 3,800 to 5,400; hemoglobin 85 to 95% (S); differential count, polymorphonuclears 36 to 44%, lymphocytes 44 to 57%. The red blood corpuscles showed somewhat greater variation than normal, and rare nucleation. The white blood corpuscles were normal, and the blood platlets few. *Gastric analysis*—hypoacidity (?) *Wassermann*—negative.

During treatment with autogenous vaccine, there was marked symptomatic and objective improvement. Enlargement of the liver was

first noted in February, 1923. Splenomegaly was first recognized in November, 1923. There were severe abdominal pains at times during the spring of 1924. Gastro-intestinal x-ray study and fluoroscopy of the chest yielded no valuable information. An attempt at biliary drainage caused hemorrhage from the biliary tract (?). The terminal period was marked by abdominal pain, nausea, vomiting, fever, hematemesis, prostration, anemia, petechial hemorrhages, and ecchymotic patches of the skin. Exitus occurred March 30, 1925.

Autopsy showed anemia; good nutrition; large liver, gall bladder, spleen, and lymph glands in the mesentery, retroperitoneal space, and mediastinum; hemorrhagic marrow; deep brownish color of liver and pancreas; and enlarged lymph glands. There was a marked iron reaction of the tissues. There was no appreciable pigmentation of the skin, or enlargement of the superficial lymph glands. A culture from the heart's blood was sterile.

Microscopically, there were found bronchopneumonia; chronic thyroiditis; cirrhosis of the liver (a picture almost identical with that of Banti's disease in the spleen); and hemosiderosis of the heart, liver, spleen, pancreas, lymph glands, gastro-intestinal tract, and bone marrow.

The condition was not recognized during life. Many conditions were considered as possibilities, but the diagnosis never verified. A striking thing was the high color of the urine at times and its staining powers. A study of the urinary pigments was contemplated several times, but each time was interfered with. However, a beautiful pigment was isolated by Dr. Taylor, of the W. H. Singer Memorial Research Laboratory, but in insufficient quantity for extensive investigation.

It is felt that valuable information may be derived from a renewed study of urinary pigments in some of the obscure conditions accompanied by anemia, blood destruction, hemosiderosis, etc.

A RADICAL CURE OF SIMPLE OBESITY BY DIETARY MEASURES ALONE

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A white girl, 16 years old, of good family, came to my office two years ago, complaining of obesity and difficult menstruation. Her mother is very obese, but did not become so until later womanhood. The other members of her family are large people, but not pathologically obese.

The patient had always been fat, but for the past four years—since the age of 12—she had been gaining rapidly. Her habits of eating were but slightly in excess of that demanded by the normal appetite of a growing girl. She was fond of sweet things, and ate much candy.

Menstruation had always been very irregular—every 5 to 6 weeks. It lasted 7 days, during more than half of which time she had such severe uterine pain that she was wholly incapacitated, and remained in bed.

Of the physical examination, it is necessary to record only that she was 65½ inches tall, had a normal bony framework for a 16-year-old girl, normal development of genital and axillary hair, and weighed 223 pounds.

The roentgenologist reported that the sella turcica was 35% smaller than normal and almost surrounded by bone, the posterior clinoid process being heavier than normal and extending far forward.

The treatment consisted of diet alone. It was arrived at by calculating a diet for her ideal weight (65 kilograms—not her actual weight 101 kilograms), consisting of a gram of protein and thirty calories per kilogram, and such an amount of carbohydrate and fat that the ketogenic-antiketogenic ratio was 1½:1. The menu was made up from these figures, eliminating as much of the fat as possible. This resulted in protein, 66 grams; carbohydrate, 79 grams; fat, 38 grams; a total of 922 calories each 24 hours. This was 9 calories per kilogram for her actual weight, and 14 calories for her ideal weight. It was hoped that she would make up the caloric deficit by using her own fatty tissue in such proportion that the ketogenic-antiketogenic ratio remained within the limits of safety. She was given ten grains of sodium bicarbonate twice a day.

The patient followed this diet faithfully, and, except for several days of hunger at the beginning, experienced no discomfort from it. On the contrary, after these first few days, she felt so much better that not only she, but her family, commented on it enthusiastically. The weight loss was as follows: At the end of the first week, 7 lbs.; second week, 12 lbs.; fourth week, 19 lbs.; eighth week, 37 lbs.; twelfth week, 48½ lbs.; sixteenth week, 60½ lbs.; eighteenth week, 65½ lbs., her weight having been reduced to 157½ lbs.

The fat in the balanced diet for her ideal weight was then replaced, and during the next two months she varied between 150 and 157 pounds. After a summer in camp, she weighed 143 pounds, and for the last year has varied between 140 and 145 pounds—a reduction in weight of 83 pounds, 37 per cent of her weight. All the time she has been in splendid health.

After two weeks of dieting, the menstrual disturbance was appreciably diminished, and after seven weeks it entirely disappeared and has not yet returned.

She tells me that during the last six months, although watching her weight, she has eaten as she chose. On questioning, I find her choice is essentially a balanced diet for her ideal weight. Her appetite, after the period of discipline, has become well trained.

The interesting points in this case are:

(1) That an obese person on a properly balanced diet not only maintained health but felt much better on less than ten calories per kilogram for her actual weight, for many weeks.

(2) That this patient with apparent endogenous obesity was treated successfully as though she were of the simple alimentary type.

(3) That when reduced 83 pounds, or 37 per cent of her weight, this patient did, without great effort, remain so.

(4) That distressing menstrual disorders were entirely relieved by proper dieting long before the weight loss was sufficient to account for it.

This case suggests that some endocrine disorders may be due to faulty metabolic mixtures ingested at some physiologically impressionable period of the patient's life, rather than that the metabolic disturbance is secondary to the endocrine disorder, as we now believe.

REPORT OF A CASE OF INFECTIOUS MONONUCLEOSIS

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The subject of this case report was a male, aged twenty-five, a medical intern in a hospital. Five weeks prior to his admission as a patient, he began to feel tired, drowsy, and was troubled with diarrhea—symptoms that were gradual in onset. Two weeks later, he had an attack of sore throat lasting only twelve hours, followed in twenty-four hours by severe aching pain along the cervical and upper thoracic portions of the spine, and accompanied by malaise and slight fever. Within twelve hours of the onset of pain and malaise, the temperature rose to 102°, when the patient had a severe chill, lasting about ten minutes. With these symptoms there developed a swelling of the right side of the neck which was painful and tender. After a duration of three days, these symptoms and signs gradually subsided, and the patient, thinking an abscessed tooth might be the cause of his trouble, was on the point of having one extracted at the root of which an x-ray film had shown an abscess several weeks before, when the fever, pain, and swelling in the side of the neck returned, necessitating his confinement to bed for two weeks. At the end of this time, there was some drowsiness and dizziness, followed by severe sore throat. During this five weeks, the patient was treated at home by himself and his family physician. He was then admitted to the Allegheny General Hospital, service of Dr. McKelvy, September 18, 1924, when he complained of sore throat, drowsiness, dizziness, and weakness. His temperature was 99.4, pulse 80, respirations 20. The right side of the neck was diffusely swollen, slightly tender, and slightly painful. The cervical glands were moderately enlarged, and the throat was generally red. Throat and blood cultures and Wassermann were negative. Urine and blood chemistry were normal, the chest was clear. The acuteness of the symptoms subsided after four days, and the patient showed gradual improvement until his discharge from the hospital three weeks later, when he still felt a little weak and his neck was slightly swollen. After a convalescence of two weeks at home, he returned to his duty as an intern in the hospital.

At the time of the patient's admission to the hospital, the R. B. C., W. B. C., and Hb. were normal. The differential count showed 66% of mononuclear cells, of which 6% were of the large mononuclear or endotheliocyte type, 30% small lymphocytes, and 30% of a type somewhat larger than a small lymphocyte, with relatively more protoplasm, with an oval, kidney-shaped, or slightly lobulated nucleus, and corresponding in morphology to the type of mononuclear found by Longcope in his ten cases. The relative number of lymphocytes became normal in two weeks, but there were still many of the atypical mononuclear cells present at the end of three weeks, although none were found two, six, and nine months after the first examination.

While this case has shown the blood picture and many of the symptoms reported by Longcope, Chapman, Tidy and Daniel, and others in their cases of mononucleosis, yet one would question the validity of considering this condition a true disease entity. However, the train of symptoms associated with an abnormal blood picture warrants a thorough study of all such similar conditions.

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Longcope (*Amer. J. Med. Science*, 164, 781, 1922) reports ten cases; onset gradual, with malaise, headache, irregular fever, chills, and often pharyngitis or tonsillitis. Lymph glands, especially cervical, enlarged. By the seventh day the blood picture characteristic. Leukocytosis at first, due to a nongranular, slightly larger cell than a small lymphocyte, with oval, kidney-shaped, slightly lobulated on Rieder type nuclei. Convalescence complete. Bacteriological and serological studies negative. In early stages resembles leukemia. Cannot prove identity with glandular fever.

Chapman (*Lancet*, 1; 434, 1923) reports a case with first symptoms of fever and enlargement of cervical glands, followed by acute tonsillitis and general glandular enlargement. W. B. C. on fifth day 15,000, of which 56% were mononuclears. Symptoms cleared up in twenty days.

De Lavergne and Pilad (*Bull. et Mém. Soc. Med. d'Hôp. de Paris*, 47, 856, 1923) report three cases with sore throat and enlargement of submaxillary and cervical glands and the other glands later. Marked leukocytosis (mononuclears 56% to 76%, including types like large mononuclears, small lymphocytes, and large lymphocytes). They doubt if the disease represents a true entity.

UNUSUAL MASTOID CASES*

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The interesting, as well as the terrifying part of catarrhal otitis media is the uncertainty of the case, since the most serious conditions may develop at any time from an apparently innocent chronically discharging ear, and every such case should be considered serious. This does not always mean operation, but pains should be taken to cure such cases, or at least to clear up each attack. Constant effort and attention is required. Thoroughness in home treatment is essential, and where it is not obtained, operative measures would seem desirable. The physician should not be content with using only one or two of the simpler types of treatment; each should be given a thorough trial. The importance of coöperation should be explained to the patient or the parents, and the necessity for carefully carrying out all instructions. After other methods of treatment have failed, operation should surely be considered a necessity. One cannot say an *absolute necessity,* for too many of these cases run along uneventfully. A time limit cannot be fixed for the date of interference, but undoubtedly, the longer the period of waiting, the more surely will there be found a gradually developing mastoid pathology.

ILLUSTRATIVE CASES

A three-year-old illegitimate child, whose mother was away from home all day, slovenly at best, and of immoral tendencies, and whose father was altogether absent or unaccounted for, had a chronically discharging ear of two years' duration. The discharge was very profuse, and the hearing was becoming affected. A simple mastoid operation showed a wide, roomy aditus, with denuded bone. After being in the hospital for two months, the child had to be sent back to her mother, where she would receive little attention. Without operation, what would have been the probable course of this case?

Another child had a slight discharge for many months which had become cholesteatomatous and foul, and on which douching had no effect. On opening the mastoid and lifting a thin shell of the external plate, it was found that the disease had already done the operation, and a huge cholesteatoma was lifted out intact from its large cavity. All the cells were gone and the aditus was wide. The next case illustrates how this one might have gone.

A young man, 26 years old, had a cholesteatoma in the right ear. The ear was cleaned out thoroughly, and the patient instructed as to douching. He was negligent, and two years later returned with a mass of the same character protruding from the external auditory meatus. He was nervous and refused treatment. Nine days later a facial paralysis developed, and he consulted his family physician, who sent him to the hospital, where, without any mastoid symptoms, he developed a fatal meningitis. The spinal fluid was positive, but the type was undetermined. There was no postmortem. We saw a number of these meningitis cases without mastoid symptoms, last winter.

A boy, 12 years of age, was taken with a chill. He ran a little temperature, for the cause of which there was no particular clue. His uncle, a physician, prescribed for him, and in three days the temperature was normal and the child apparently in good condition. A week later he again began to ail, developed a temperature, and became irrational at times. This had happened before, so the parents thought nothing of it. As he did not improve, they called in Dr. F., who called in Dr. B., an aural specialist. The latter found the child with no other symptoms than a headache and temperature. The drum was hyperemic but not bulging. Owing to the suggestion of meningitis, the patient was sent to the hospital. Paracentesis was done that night, but there was no pus found. Next day, the spinal puncture was positive, the cell count up, the fluid cloudy, and pneumococcus, type 1, was isolated. The patient died nine days later, of the meningitis.

MacKenzie's sign, or the Weber-Schwabach paradox, is consistently present in acute mastoid involvement, and deserves consideration.

Two cases, seen last winter, with a typical mastoid history and the usual preoperative findings of a faint trace of albumin in the urine, after operation developed severe and protracted pyelitis. Both these patients had purulent necrotic mastoid cells. Other than the complication of pyelitis, they presented no unusual features, and no premonitory suggestion of the complication.

In practically all the cases seen last year, the x-ray reports—from a number of very excellent men—were very guarded and indefinite. The findings were seldom reported positively, and often operative findings contradicted the report.

The x-ray plates, however, were of decided value in locating the lateral sinus.

There were at least half a dozen cases with symptoms calling for early interference, with typical histories of middle-ear discharge, pain and tenderness over the mastoid, occasional vestibular symptoms, and febrile reaction. On operation, these cases showed merely a hyperemia, or rather an acute congestion of the mastoid cells, but no pus. Most of them were operated upon within five days of the onset of the mastoid symptoms, and if operation had been delayed longer, they would probably have become purulent and shown necrotic changes. They are the cases that did best on the blood-

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clot dressing. In the majority of these cases, the x-ray showed a greater shadow on the affected side, but beyond this and the index of the extent of the mastoid-cell area and the position of the lateral sinus, nothing very definite could be obtained from the plates.

We saw two such cases that showed, on operation, congestion throughout the cells and pus only at the tip. One of these patients had had a running ear of three weeks' duration. During this time, there was no suggestion of mastoid complications, when suddenly he developed a pain in the neck below the tip. There was no pain or tenderness behind the ear, and no change in the quantity or quality of the discharge. The temperature at this time never rose above 101°, yet leukocytosis was 23,800. Operation revealed erosion through the tip and a typical Bezold's abscess.

TEMPERATURE

Adult cases usually show less febrile reaction, the temperature rarely going above 101° in uncomplicated cases. It is natural to suppose that this is due to the draining ear which reduces the amount of pus to be absorbed. Certain it is that the temperature changes are more marked in cases with dry ears or with sudden cessation of discharge.

Infants also have relatively low febrile reaction, so long as the ear runs. However, the virulence and acuteness of the attack may give a history such as the following:

H. S., aged 2, was admitted to the hospital on January 18th, with a discharge from and a pain in the right ear. The child had been crying with pain for two days. The temperature was 104°, the pulse 180, and the respirations 38. The ear was discharging freely, and cervical adenitis was present. A simple mastoid operation was done, and the tiny mastoid area was found to be purulent and necrotic. The temperature remained up after the operation (105°), a postoperative subacute bronchitis developed, the urine was loaded with pus cells and albumin, and the wound remained quite purulent. In spite of all these unfavorable features, the child gradually recovered, and was discharged with a dry ear and normal temperature on February 15th. This case was acute and violent throughout, and there was sufficient reason for the temperature despite the drainage from the ear.

LEUKOCYTOSIS

Leukocytosis seems to run relatively high, even when most of the patients have no higher temperature than 100° or 101°. It is not unusual for the leukocyte count to be 20,000 to 23,000. Depending, of course, upon the acuteness or chronicity and upon the drainage, there may be a relatively high or low lymphocytosis. The lymphocyte count is probably of more particular value when complications are suspected, but to be of any value at all, there is another most important consideration. A great deal depends not only on the experience and carefulness of the person taking the count, but also on the type of counting chamber. A wide range of error has been reported in the use of different domestic and foreign counting chambers.

More care and attention should be given the leukocyte counting, and accurate checks on the counts should be made. It is particularly important to have the reports made by number, not by the patient's name, and collection of specimens should be made by some one other than the one counting. There is much mental bias when the laboratory worker knows what he is expected to find, and too many really false counts are given consideration.

Esther G., single, white, aged 23, had continuous pain behind the left ear and constant headache. The family history was negative. Four years from the date of this first appearance, she had "grip," and while douching her nose because it was "stuffed up," she forced something into her left ear, which began to pain severely. The face became paralyzed on the left side, the drum ruptured spontaneously, and the ear drained for three weeks. Since then, there has been intermittent pain and tenderness over the mastoid. Her past medical history also showed scarlet fever at 8, dislocated spine (questionable) at 14. and typhoid fever at 12. She had always been mentally subnormal, neurotic, and subject to attacks of petit mal, and had had eight convulsions in the last two weeks.

When first seen, she had complained of generalized headache, continuous and apparently severe; dizziness; deafness; and tinnitus. There was a rather marked left facial paralysis, and partial nerve deafness on the left side. The Weber was referred to the right, the Rinne was plus on both sides, the hearing in the right ear normal, and in the left ear both bone and air conduction were diminished. The drums were retracted, but otherwise negative, with no perforations, and the eustachian tubes patent. There was a suspicious spontaneous vertical nystagmus. The septum was deflected to the right. touching the middle turbinate, and there was compensating hypertrophy of the left middle turbinate. There was no pus in the nose, no sinus tenderness, and the tonsils had been removed. There was pain and tenderness over the left mastoid. but no swelling. The Wassermann was negative, and the x-ray negative as to the accessory sinuses, but the report on the mastoid was unsatisfactory. Temperature, pulse, and respiration were normal.

A radical mastoidectomy was done on the left side. No pus or inflammatory tissue was found: there was nothing but sclerosed bone everywhere. The postoperative course was uneventful, and the patient was discharged in five days, improved. Six months afterwards there was no pain in or about the ear, and the operative wound was healed nicely. The drum was intact, although nerve deafness was still marked. She was accommodated to the vestibular destruction. There was a very faint evidence of facial paralysis, and she still suffered from petit mal.

E. M., aged 12, was a robust healthy boy, but was affected with earache following measles. There were no changes in the drum, but pain in and behind the ear.

There was slight mastoid tenderness, no bulging or congestion of the drum, no sagging posterior wall. The child was put to bed, and the ear symptoms quieted down to such an extent that in five days he was allowed to play around the room. His temperature showed a tendency to rise in the evening, and he seemed droopy. He then developed a more septic temperature, with tenderness returning to the mastoid although the drum and canal were still normal, stiffness of the neck, continuous and unbearable headache, vomiting, delirium, rapid pulse, and occasional mild convulsive seizures. Spinal puncture was negative in every respect.

Dr. L. thought it best to do a mastoid operation, at which he found merely a congestion of the cells—no pus. Exposure of the lateral sinus showed it to be normal. The drum was incised. The child lingered on for a week, better and worse by turns, neither the ear nor the mastoid discharging. Meningitis became more evident and violent, and the patient died at the end of the week.

1805 Chestnut St.

THROMBO-ANGIITIS OBLITERANS*

REPORT OF A CASE OCCURRING IN A NEGRO

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Thrombo-angiitis obliterans as a circulatory disease is interesting because of its etiopathological possibilities and its racial characteristics.

So far as its etiology is concerned, we are still in the dark, and in doubt whether it should be classified as infectious in origin and inflammatory in reaction, as described by Leo Buerger,[1] or whether the tobacco and endocrine theory of Willy Meyer,[2] of New York, should be adhered to. It would seem that tuberculosis, syphilis, and other general systemic diseases play little or no part etiologically. Syphilitic taint cannot be ruled out as a factor, even though most of the reported cases show a negative Wassermann.

The disease is quite prevalent in Germany, and is spoken of as the Jewish tobacco disease. It occurs mostly in Jews of Russian or Polish extraction. Bernheim,[3] of Baltimore, reports 9 cases, 8 of which were Russian Jews. Perla,[4] of New York, reports 41 cases, and all but one of the patients were Russian, Polish, or Rumanian Jews. He concludes that inference cannot be drawn from this report, for 95 per cent of the admissions to the Montefiore Hospital, where these cases were studied, were of the Jewish race. Cases, however, have been reported from Japan and continental Asia, nearly always affecting males, and usually young adults. Meleney and Miller[5] have recently reported a case occurring in a female.

Buerger has established beyond doubt the thrombotic basis of the condition and the non-relationship to endarteritis obliterans, although the two conditions may coexist.

The lower extremities are usually affected first, but the upper extremities may suffer, and the disease may attack the coronaries and aorta, as described by Perla.[4] The histopathological changes occur chiefly in the intima, with thickening and proliferation. Recanalized thrombi and completely organized blood clots can be found on microscopic examination of the tissue from amputated extremities. The laboratory findings approach the normal, but an increase in the number of red blood cells has been noted.

The disease progresses slowly, and the average life of the limb, according to Perla, is one to two years after the onset of symptoms, and it may last, with intermissions, which are characteristic of the disease, for a period of twenty years.

The treatment is unsatisfactory, and includes the administration of quarts of Ringer's solution daily, through the duodenal tube, for long periods, intravenous injections of 2-per-cent sodium citrate, the use of vaccines, reversal of the circulation, ligation of the femoral veins, periarterial sympathectomy, and finally amputation. Periarterial sympathectomy, as performed by Bernheim, has brought about very encouraging results, particularly when performed in the early stages. In late cases, amputation of the affected extremity is the only means of producing a cure.

The following case is reported because of its interest from the racial standpoint.

W. C., Negro, male, aged 37 years, was admitted to the York Hospital from the York County Almshouse, April 24, 1925. The patient was very toxic and confused, and the history was obtained with difficulty. No reliable data could be elicited in regard to previous illness or family history. He was a laborer, married, but separated from his wife. Some of his relatives lived at Winston-Salem, N. C., but he did not know where he was born, or how long he had lived in Pennsylvania.

He had formerly smoked considerably, using on an average of 15 cigarettes a day.

The present illness began about two years ago with pain and numbness in both feet, particularly the left. Later, this condition was followed by gangrene which was progressive, both legs became swollen and edematous, followed by spontaneous amputation of the left foot at the ankle joint. There was no history suggestive of trauma, frostbite, diabetes, or syphilis.

The physical examination revealed a considerably emaciated colored man, head apparently normal, pupils sluggish, teeth poor, showing pyorrhea, tongue coated, and tonsils enlarged. No abnormalities of heart, lungs, or abdomen were noted. The left leg showed that spontaneous amputation of the foot had taken place at the ankle joint, leaving a large granulating conical surface, with retraction of the integument. Above this area, extending to the knee, was a well-marked cellu-

*From the Surgical Service of the York Hospital.

litis. There was foul-smelling pus discharging from the externolateral surface of the leg.

The right leg below the knee was edematous, but showed no evidence of cellulitis. The right foot was entirely gangrenous and sloughing, exposing the scaphoid and astragalus, which were held together only by necrotic shreds of tissue. There was no line of demarcation, no popliteal pulsation, and the stench permeated the entire ward. The pain seemed to be excruciating on moving either extremity. Temperature on admission was 97°, pulse 80 per minute, blood pressure 105/65.

The laboratory report was as follows: Urine amber, reaction acid, albumin and sugar negative, specific gravity 1018. The microscope revealed a few pus cells; no casts or red blood cells were noted. The red blood cells numbered 4,110,000 per c.mm. of blood, white cells 11,200, hemoglobin 85%. The Wassermann test was negative.

Three days after admission, under gas anesthetic, the right leg was amputated by the circular cuff method, with the saw line one handbreadth below the tibial tubercle. The muscles appeared white and soggy, and the circulation was poor. A small cigarette drain was inserted in either end of the incision, and the flaps closed. The leg was put on a straight posterior splint. The left leg was opened in various places by five longitudinal incisions. The infection seemed to have followed the tendon sheaths and muscular planes. Tubes were inserted almost to the popliteal space, and dressings applied.

The patient stood the operation very well. Postoperatively, the temperature reached 103°, but the radial pulse was not over 96 beats per minute.

The stump healed by first intention, and the cellulitis gradually cleared up in the left leg following the use of Dakin's solution, and even more rapidly on using a 6% solution of mercurochrome for irrigation.

On June 20, fifty-four days after the first operation, the left leg was deemed sufficiently healed, in so far as the cellulitis was concerned, to permit of a reamputation of the stump. The leg had undergone spontaneous amputation before admittance to the hospital.

Under gas anesthesia, a typical Farabeuf amputation of the leg in the lower third was done, and a small rubber drain inserted. Following this operation, the temperature reached a maximum of 102-4/5°, and the pulse 120 per minute. The flaps healed *per primum*, and a good fleshy stump resulted.

The patient was discharged July 25, three months after admittance to the hospital.

The report of the pathologist dated April 27, following the amputation of the right leg, was as follows: "Gross:—Leg amputated at the upper third. The foot is almost destroyed by gangrene except a small portion of the heel. The specimen is bathed in a large amount of foul-smelling pus." No microscopic examination was made of the tissues.

Following the amputation of the left leg, the following report was received from the laboratory: "The specimen consists of a mass of skin, muscle, connective tissue, and tendons. The arteries are very firm and stand out prominently from the rest of the tissue. Microscopically, the blood vessels in the tissues are thickened and fibrous. The lumen is filled with organized clot, and in some places the clot is canalized with small capillaries."

In view of the general and histopathology, the case was undoubtedly one of thrombo-angiitis obliterans occurring in a colored man. A review of the recent literature fails to reveal any authentic cases occurring in the Negro race.

135 E. Market St.

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THE RESPONSIBILITY OF THE COUNTY SOCIETY FOR THE PROMOTION OF HEALTH EXAMINATIONS*

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The World War spread its savage futility over a period of four years because the opposing armies lacked an arm of the service with sufficient mobility and hitting power to bring about a decision. Most of the battles of the previous fifteen hundred years were won by superior tactical skill in the use of cavalry, which was banished from the battlefield of the twentieth century by the advent of the machine gun and the high-powered rifle. But at the beginning of the fifth year, on the eighth day of August, nineteen hundred and eighteen, the possession of a modernized form of heavy cavalry, the tank, enabled a British army to advance through the strongest part of the German defenses.

It would seem that the regular military profession of England must have seized with enthusiasm upon the tank and have endeavored to perfect its tactical employment, but such a picture does not correspond with the facts of history. The men who originated the tank met with heartbreaking delays and obstacles; the army was slow to see its merit, and even slower to authorize its use in sufficient numbers on suitable terrain. Much of its value might have been lost had the military profession of Germany taken it seriously, but they, like the English, had the same opinion of innovations as did Captain Fluellan of King Henry the Fifth's army. This honest soldier of Shakespeare's drama said, "It is not according to the true and ancient prerogatifs and disciplines of the wars."

Professionalism is the admirable system by which the life of service is inspired and directed, but it is not without defects. It seems that the technical study of a profession tends to blind men to its broader aspects—they do not see the

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woods for the trees. The resulting resistance to innovation is well illustrated by the foregoing example from the army, but other professions display the same tendency, and many examples might be cited from the history of law and theology. It is the purpose of this paper to discuss an instance in which physicians have been conspicuously slow in adopting an innovation which promises to be the best tactical means of advancing the grand strategy of medicine, which is to prevent disease, or to attack it in the early and curable stage.

Our profession may point with pride to its record of achievements in the service of humanity. It is impossible to avoid superlatives in discussing medical advance of the past generation, particularly in the field of diagnosis and of preventive medicine. It is an obscure case indeed which baffles the modern diagnostician with his batteries of instruments of precision. To the great epidemic plagues, modern medicine can say, "Thus far canst thou come and no farther," and millions of individuals are thus given the opportunity to bring to adult years a more or less useful and happy life.

But there is another chapter to the story. The individual who reaches adult life may expect no longer period of usefulness than was enjoyed by individuals in previous ages who escaped the epidemics of early life. Medicine has accomplished little or nothing in lengthening the work span nor in adding to the quality of life. The proof of the statement as to the work span has been presented in numerous statistical studies. As to the quality of life, study the appearance of the throngs of people you pass on the streets of American cities: seldom indeed does their posture, step, color, or facial expression denote the healthfulness which gives true joy to living.

Fortunately, it is possible for organized medicine to break the stalemate which exists in this field. Attacks according to the "ancient disciplines and prerogatifs" of the profession have failed, but a new weapon is available. The periodic health examination was proposed years ago by laymen, by an oculist speaking before the American Medical Association, and by insurance actuaries and examiners. It has been endorsed by the General Staff of American Medicine, the American Medical Association, and those who have seen it in action are confident that it will add to the duration of life, and especially to its usefulness and happiness, if efficiently applied on a large scale.

The health examination is preventive medicine designed to reach the individual. For every person there is an age, probably always beyond seventy, when he will wear out from the strains and stresses of life; the health examination insures him against being poisoned out or infected out years before he wears out. Cardiovascular diseases assume first importance as a cause of preseptuagenarian death, because the circulatory system bears the brunt of poisons, infections, and excessive strains. Periodic investigation of living habits and physical condition will do much to preserve this all-important pump and tubing —a theoretical consideration which has been confirmed by practical experience. Other diseases which may be brought under control in the same manner are nephritis, tuberculosis, cancer, gallbladder disease, peptic ulcer, late syphilitic conditions, lesions of the esophagus, and the many diseases which follow focal infections. A great many individuals who are below par but have no organic disease will be much benefited by correction of living habits. Recent community surveys have provided statistics which show the frequency of minor diseases which greatly reduce efficiency. A method by which the efficiency of the race may be increased and the health of middle-aged people improved will be a greater boon than the discovery of a fountain of perpetual youth.

The practical application of this weapon to meet the attack of the chronic diseases will be possible when each and every member of the medical profession becomes convinced of his responsibility to aid in keeping people well. The ethical basis of this responsibility will be found in the *Principles of Medical Ethics,* and in that more fundamental principle of ethics, the Golden Rule. There is also a strong appeal to our enlightened self-interest. In the America of the future, with the exhaustion of natural resources, life will be more rigorous, waste will be eliminated, and the institutions which survive must justify their existence by service. In our profession we have, so far, done just about as we have desired, but those days will soon be gone forever. If we do not keep our leadership by service rendered, the State will some time step in and tell us how we may practice. The English State has decreed that our colleagues over there shall practice under the panel system: let an English practitioner tell you what this means to him, and the contrast will give you a "grand and glorious feeling."

Physicians must be convinced that the control of the chronic diseases is possible by the application of health examinations; they must be prepared to make these examinations; and they must let their patients know that they are ready to give this service. When the public realizes

that the medical profession is in earnest, that it means business about this movement, there will be little difficulty in educating them to present themselves regularly for examination.

It must be admitted that practitioners in general have not given to this movement the support which its importance to the public and to the profession justifies. It will never make much progress until general practitioners line up as advocates, and the work of stimulating their interest and giving them the required assistance can be carried out most effectively by the county societies. The county society is the tactical unit best qualified to lead because it is located in the theater of operations: it deals directly with practitioners, and is influential in shaping their opinions and directing their activities. The possession of this power imposes the obligation of doing the work, and in the last analysis, this obligation rests upon the men and women in each society who have the ability to plan and execute, of whom the secretary is chief. You have it in your power, by the promotion of health examinations, to influence the health and lives of the people of Pennsylvania to an extent beyond your power to imagine.

Among the effective methods of promotion may be mentioned publication of articles in your bulletins, presentation of papers and demonstrations at the meetings, providing for the examination of physicians themselves, enlisting the interest of the Auxiliary, holding public meetings, the publication of interesting material in newspapers and other lay journals, and discussion of the subject in conversation with your fellow practitioners. The Committee on Public Relations of the State Society will greatly appreciate your help in having each county society appoint a similar committee.

We all need an increased sense of our responsibility for the prevention of disease, an inspired vision of the possibilities and a new evaluation of professional work based on the value of the service to humanity. We are too prone to lift up our hands in admiration of expert technic without regard to what is accomplished for the patient. Who serves better, the expert who makes a diagnosis of coronary occlusion in the terminal stage of cardiovascular degeneration, or the health examiner who prevents cardiovascular disease by the discovery of a painless focus of infection?

The health examination is not a medical fad nor a commercial venture with manufacturing interests back of it. It has the firm basis of incontrovertible logic, and is promoted by those who believe in its power to lift the burden of ill health from the shoulders of harassed humanity. We may with justice be reproached for our delay in offering the boon of good health to those who look to us for guidance. Let us remove this reproach by actively promoting all methods of preserving health, keeping in mind the admonition of our medieval colleague, Paracelsus, a man not afraid of innovations:

"Know, not for knowing's sake,
But to become a star to men forever.
. . . . . 'Tis time
New hopes should animate the world, new light
Should dawn from new revealings to a race
Weighed down so long."

ANNUAL CONFERENCE OF SECRETARIES OF CONSTITUENT STATE MEDICAL ASSOCIATIONS

This conference was held at the headquarters of the American Medical Association in Chicago, November 20-21, 1925. It was an extremely interesting and instructive meeting, and should be far-reaching in its results. An intensive program was presented, and the secretaries received a message to convey to their respective societies, and the editors, many ideas for publicity as a means of advancing the interests of the profession.

Among the addresses delivered the following may be mentioned:

Dr. William D. Haggard emphasized the fact that the periodic health examination "has not been sold to our profession." The general practitioner has not been thoroughly aroused to the necessity for this type of work. He must first of all believe in it, and be willing to devote the necessary amount of time to make a complete and satisfactory examination. He must realize that the value of these examinations is being brought to the attention of the lay public by every means at our command. Once the people have been aroused to their necessity and convinced that the general practitioner is the one to make them, then the doctor must be prepared with the skill and the necessary equipment to conduct them properly. Further, he should blaze the trail by showing the people in his community that he and his family each year submit to an examination.

Dr. J. R. Neal, of Illinois, in a paper on "Some Experiences in Dealing with Medical Legislation," recommended that the time to see the legislators is after their election. Each time a governor is elected in his State, the legislative committee of the State Medical Society requests an audience with him in order that all matters

pertaining to medical legislation may be placed before him properly, and discussion invited. The dues of the Illinois society were raised, in order to afford necessary financial support for the campaigns conducted by its legislative committee. The newspapers are used to further publicity.

Dr. John E. Jennings, of New York, submitted the program of a county society for teaching methods of making periodic medical examinations by graduate extension work, distributing much printed material to show how effectively such a plan may be carried out.

Dr. Walter F. Donaldson read a timely paper on "The Coöperation Between the Secretary and the Council of the State Association." This paper will be printed in full in the *Bulletin of the American Medical Association,* and therefore is not abstracted here.

Dr. W. E. McVey, of Kansas, in a paper on "The Relations of the Constituent State Associations and the American Medical Association," recommended a scheme which met with the full approval of the Conference, and it was referred to the Board of Trustees of the A. M. A. This will be elucidated in another issue of the JOURNAL.

A symposium was devoted to the physician already in practice, how to arouse his interest in, and educate him for the thorough, effective conduct of periodic health examinations. Dr. Alec N. Thomson of New York, presented "Papers and Discussions, with Demonstration by Examinations of Physicians Themselves." Dr. Orrin S. Wightman, New York, discussed "Postgraduate Courses," and Dr. Anna M. Richardson, New York, "Typical Cases and End-results of Periodic Health Examinations." In these papers and discussions, the following matters of interest were brought out.

The physican who submits himself for an annual examination can learn much about the technic of making an examination by carefully observing the procedure followed by the one examining him. Every physician has in his office all of the armamentarium required for conducting an examination, with possibly the exception of a tuning fork and an ophthalmoscope; he should be trained to use every instrument of precision that may be necessary in making a diagnosis; and he must take the time to examine the patient properly and charge accordingly for the service rendered. Periodic health examinations cannot satisfactorily be conducted during office hours unless proper appointment has been made and the necessary time allowed. The general practitioner must realize that we are now in the *period of preclinical medicine;* that is to say, in the period when the physician must be able to recognize deviations from the normal, at the time nonsymptomatic but that later will produce symptoms. This is one of the points of greatest value to be considered in these examinations, and too much stress cannot be laid on the necessity for the recognition of this entity. Postgraduate courses should be arranged in such a way that the method of conducting an examination may be carried to the very door of every physician in the State, irrespective of how remote he may be. These courses should be arranged so that all necessary equipment is shown, and the method of using it demonstrated. The dental profession should be invited to participate in these meetings, to advise regarding the procedure of examining the teeth, the care of the teeth in children of preschool age, the various dental malformations and when it is necessary to refer such patients to the dentist, and other dental conditions. Since a demand is being created among the laity for periodic examinations, the physician must be prepared to conduct them competently, to appreciate preclinical signs fully, and to give adequate advice based upon the findings.

Dr. Charles Emerson, of Indiana, discussed the symposium from the standpoint of the undergraduate medical student, speaking of the rôle that must be assumed by the medical schools in properly preparing the undergraduate for this great undertaking when he assumes his responsibility in the practice of his profession.

Dr. Charles Elliott, of Illinois, demonstrated the proper method of conducting a health examination. Some of the points brought out were as follows: The significance of underweight and overweight must be appreciated, pathology must be recognized, and above all, preclinical manifestations must not be overlooked. An effort should be made to correct all abnormalities. One of the most important things to know is the normal area of apex beat in order to recognize deviations. The best method of determining the normality of the heart action is first to take the applicant's pulse rate, then have him hop up and down on one foot one hundred times, and after a two-minute rest, again count the pulse. If the heart action is normal, the rate at the expiration of two minutes should be the same as previous to the test. This, of course, should not be tried with a patient known to have cardiac disease. If the pulse is slow, or fast, or irregular at the expiration of two minutes, then the cause of the abnormal state should be determined. The left border of the heart is better outlined by palpation than by either auscultation or percussion. The tones of the heart and their modification are

more important than murmurs, because they determine pathology more than murmurs.

A symposium was conducted showing the methods of educating the laity to the need of periodic health examinations. Dr. Elliott B. Edie, of Pennsylvania, presented a paper on "The Method by Newspapers, Magazine Articles, Circulars, Etc."; Dr. Hoyt Dearholt, Wisconsin, "By Lay Medical Health Associations"; Dr. Roy R. Ferguson, Illinois, "By Examinations at Health Expositions and Exhibits"; and Dr. Stanley H. Osborn, Connecticut, "By Departments of Public Health." Among the points brought out may be mentioned the number of patients going to exponents of the cults, which shows that the people have not full confidence in and respect for the medical profession. Prevention of disease is better than cure, and far cheaper. Tuberculosis patients, through their own fault and that of their families, come too late to the dispensaries, eighty per cent of the cases applying to dispensaries in Wisconsin for first treatment being hopeless. At the recent annual session of the Illinois State Medical Society, every physician in attendance was requested to be examined, 828 physicians volunteering to conduct these examinations.

In conclusion, the members of the Medical Society of the State of Pennsylvania are reminded that periodic-health-examination blanks may be secured from Dr. Walter F. Donaldson, the Secretary, 8014 Jenkins Arcade, Pittsburgh, or the office of the State Medical Society, 230 State Street, Harrisburg. The price is $1.00 per pad of one hundred blanks, and with the first purchase made there is given free a "Manual of Suggestions for the Conduct of Periodic Examinations of Apparently Healthy Persons," and a card to be hung in the office waiting room. These blanks should be obtained immediately, and placed in the waiting room of every physician, together with the card requesting the patient to make use of one. Do your part in this great altruistic work. Be prepared for the demands that will be made upon you.

INTERSTATE MEDICAL CONFERENCE

Pursuant to an invitation issued to the Presidents, Secretaries, Chairmen of Legislative Committees, and Editors of the New York, Pennsylvania and New Jersey State Medical Societies, and to the Secretaries of the Boards of Medical Examiners of those States, to confer regarding medical problems of mutual interest, a meeting was held November 7th at Atlantic City, at the office of the *New Jersey Medical Journal's* Editor. The following were present: Drs. Joseph S. Lawrence, Lucius F. Donohoe, J. B. Morrison, Alexander MacAlister, Henry O. Reik, and Frank C. Hammond.

In opening the meeting, Dr. Reik explained the reasons for calling this conference; saying that shortly after his engagement by the New Jersey State Medical Society, the secretary of that organization, Dr. J. B. Morrison, in instructing him as to his duties, advised him that he should "arrange a personal meeting with the executive secretaries of the medical societies of New York and Pennsylvania to discuss with them the problems they are attempting to solve and the methods they are applying to carry on public education along the lines desired by our profession," and that later, while dealing with legislative matters last winter, he became impressed with the idea that there were a number of questions inviting harmonious action on the part of these three societies that should be of interest to several of the officers of each society.

The necessity for coöperation was brought much more forcibly to his attention during the months of May and June by news of the unfortunate impassé that seemed to have arisen between the State Boards of Medical Licensure of Pennsylvania and New Jersey. He then wrote to Drs. Hammond and Overton (New York), suggesting that the editors of the state journals initiate a movement for closer coöperation between the medical societies of these neighboring states, whose problems must be much the same, who must desire to avoid friction of any sort, and who might possibly, by working together, ultimately secure results beneficial to the profession through the establishment of practically identical conditions governing the practice of medicine in this territory. The point in mind was that we all desired to meet in conference, that the best way to start such a movement was to start with some possible workable suggestion, and then let nature take its course. The presidents of all three State Societies have approved the plan adopted.

Dr. Lucius F. Donohoe, President of the New Jersey State Medical Society, was unanimously chosen as presiding officer, and Dr. Henry O. Reik, as secretary.

Dr. Hammond spoke on the subject of coöperation between the state medical journals, and the possible advantages of united and simultaneous efforts in delivering important information to the profession in this district.

Dr. Morrison opened the discussion on "Medical-Practice Acts," and after briefly referring to the differences between the laws of the different states, stated his belief that the ideal medical-practice act is that embraced in the Kelly article

on "The Regulating of Physicians by Law." We should get away from particular recognition of schools of medicine; should maintain high standards of premedical education; insist upon the conferring of medical degrees only upon persons who have thoroughly studied every branch of science dealing with human health, disease, and deformity; and let all would-be practitioners of medicine be educated and examined alike as regards fundamental sciences, and then follow whatever line of therapeutics they may choose.

Dr. Morrison felt that it would be unwise to attempt at the present moment, in New Jersey, a substitution of the Kelly Act for the existing law, but he believed any changes made should be in the line of ultimate accomplishment of that object.

Dr. Hammond explained the present situation in Pennsylvania, where the Homeopaths have equal representation with Regulars on the Examining Board and refuse to concur in any alteration of the law unless guaranteed continuance of the relative membership. The proportion of Homeopathic to Regular practitioners in the State is about as 1 to 4, yet they demand equal representation on the Board. In consequence, the State Society has recommended adoption of a law providing for a single board (disposing of the existing Osteopathic Board) the members of which shall be appointed by the Governor and without designation as to schools, being termed a One-Board Nondesignate Bill.

In discussing this question, the general opinion of those present was that the "nondesignate" board would be a dangerous proposition. Dr. Hammond referred to the fact that conditions are much the same as in other states, in that legislators ask "Why don't you men get together, decide on something definite, and have it over with?" as they are tired of having the medical-practice act brought up at every session.

Dr. Lawrence described the workings of the New York law under direction of the Board of Regents, and explained some of the changes sought for in the act prepared for submission to the next General Assembly. He referred to efforts in other states, notably California, Oregon, and Washington, to have lay organizations assist in procuring desired medical legislation, and the general attitude of legislators toward the medical profession.

Dr. Lawrence distributed copies of the proposed New York amendments, emanating from the State Medical Society. Heretofore, practically all changes in the Medical-Practice Act have started from the Department of Education, but the physicians have been held responsible by outside interests. The new act will provide for registration of all physicians, but it will be a single, not an annual, registry. Another new feature will be provision for a "Commission on Discipline," whose function shall be to deal with troubles arising between physicians, between the laity and physicians, or charges concerning physicians. This will be comparable to the jurisdiction of the Bar Associations in the practice of lawyers, even to the point of procedures similar to disbarment in lieu of the present methods of securing revocation of license. In the composition of this commission, provision is made for recognizing the different schools—regulars (5), homeopaths (1), and osteopaths (1).

Dr. MacAlister expressed the belief that the New Jersey Medical Act is one of the best in the United States, and reported that his board has been very active in the matter of prosecutions during the past year. Such cases are tried before the presiding judges, not by jury, and this fact has facilitated and favored the work.

Dr. Donohoe called attention to the fact, however, that one conviction had not succeeded in disposing of many of these illegal practitioners: they pay the fine and continue to practice. It will be more effective possibly, to exert our efforts in direction of preventing them from starting in practice, and to that end we should work to educate the profession and the public to the desirability of ultimately establishing something like the Kelly Law.

Dr. Donohoe described the efforts made in New Jersey during recent years to secure adoption of the so-called "Doctor's Title" Bill, explaining the object of that bill and the consideration at present being given to the question whether it should be reintroduced at the coming session of the State Legislature. Drs. Morrison and Reik related some of their experiences in connection with this legislation, and Dr. Lawrence told of the efforts made in New York to prosecute persons falsely using this title and for practicing without a license. The latter had observed, in connection with prosecutions for the latter offense, that in forty-five cases they were rather relying upon the cult name for their business success. Dr. Lawrence believed it would be difficult to secure convictions for simply misusing the title.

Dr. Lawrence called attention to New York's effort to reconstruct the "Workmen's Compensation Law" so that the medical aspect of it should be under control of a medical board.

Drs. Donohoe and Reik referred to conditions in New Jersey as a model example in that respect, where all such matters are under the con-

trol of the State Commission of Labor. Dr. Hammond reported that conditions in Pennsylvania were rather bad in that respect; efforts to amend the existing law had failed of adoption.

Dr. Lawrence suggested that this is one subject upon which the three States might unite in an effort to secure uniform and satisfactory legislation.

Dr. Reik stated that in so far as he was aware, New Jersey's Commissioner of Labór, Dr. McBride, is not seeking any new legislation on this question, but he was certain that, out of his wonderful experience, Dr. McBride would be of great help in planning such uniform legislation.

Following the program, Dr. Morrison introduced for discussion the subject "What Provision Exists, or Should be Made, for Supervision and Control of Private Hospitals?" stating that his attention had been called to the matter by the increasing number of private hospitals in the larger cities where abortions are being performed and where other surgical work is done without adequate supervision. Even the smaller public hospitals, down to fifty beds, are standardized by the American College of Surgeons, and that brings them under periodic inspection, but there is no such supervision of private hospitals. Dr. Morrison believed that these institutions should be required to take out a license, and to submit to supervision of their accommodations, of the physicians or surgeons having care of their patients, and of their books showing business transactions.

There was general concurrence in the view that this condition exists in all three states, and that this is another problem where, by coöperation, conditions could be improved in accordance with some generally acceptable plan. It was suggested that such hospitals might be brought under control of the State Boards of Health.

The next problem submitted concerned "The Nursing Situation," and was introduced by Dr. Lawrence, who described the conditions in New York, where the nurses are acting on lines parallel to those of a labor union, and thereby causing considerable disturbance in the relations between the physician and the patient. He stated that consideration is being given to the advisability of introducing legislation looking to recognition of a class of "trained nurse" as distinguished from the recognized "registered nurse," and legislation looking to control of the bureaus of nurse registration, so that the physician or patient engaging a nurse should be able to learn something definite about her qualifications. Discussion of this question disclosed the fact that it is a serious problem in all three states, that it has ramifications in several important directions, but that no one had ready a solution for these problems.

At the conclusion of this conference, it appeared to be the opinion of all those present that the results of the meeting had justified its being called, and that it seemed desirable to continue the project of developing interstate coöperation. It was suggested that New York City might be the most central place for meetings, and Dr. Lawrence said he thought it possible that after presenting his report of this meeting to the New York State Society officers, a second conference might be invited to convene in that city.

The meeting then adjourned, subject to call of the chairman.

THE TREATMENT OF BURNS*

When a burn is of any considerable extent, the clinical picture is initially that of shock. After twenty-four hours there is a period of from two to four days in which the symptoms are those of toxemia. Many theories have been advanced with regard to the etiology of the toxemia. The Committee accepts the view of Boyer and Gumard and Robertson and Boyd that toxins absorbed are formed by the action of the heat on the tissues.

In extensive burns there is always a loss of heat due to peripheral vasodilation. This is to be feared most in burns without charring, as chars serve to prevent heat dispersion.

Pain and heat loss act in a vicious circle to increase and prolong the initial shock. As the Committee believes that pain is controlled more effectively by a local anesthetic, they suggest the use of packs of ½ of 1 per cent novocain.

Parallel with the vasodilation in inflammation, there is an increased permeability of the vessels, with consequent loss of circulatory fluids and resulting concentration of the blood.

Constitutional changes due to burns, including those which cause death after the period of initial shock but before infection, are the result of the absorption of disintegration products for which the body has no lytic substances.

Extensive superficial burns covering large surfaces with a protein which is foreign to the organism and becomes rapidly absorbed because of widespread vasodilation demonstrate well the value of vascular constriction in the prevention of toxemia due to local absorption. Local blocking of the circulation and early removal of the necrotic tissue will save many lives.

As it is not rational to depend wholly upon the body to take care of the foreign cellular material produced by a burn, early débridement is practiced. The recovery from the toxemia, which occurs on removal of the destroyed tissues, is astonishing.

The administration of large amounts of fluid is directed toward the elimination of the toxin. Underhill and his coworkers at Yale have shown that extensive superficial burns produce marked hydremia, and that

*Report of the Committee to Study the Treatment of Burns, of the Medical Society of the State of Pennsylvania. Reprinted from the September ATLANTIC MEDICAL JOURNAL by order of the House of Delegates.

the rapid and continued administration of fluids causes a gradual reduction of the blood concentration, with marked improvement in the systemic signs and symptoms. The improvement may be the result of dilution of the toxins and their increased elimination through the renal system.

If the toxemia is overwhelming, the exsanguination-transfusion of Roberts and Boyd offers much promise. It is best to use this in connection with débridement, as then the circulating toxins and the etiological factor will both be removed.

No method except peripheral block of the circulation has been found whereby the lytic substances of the body can be accelerated in breaking up the crude soluble toxin. After about ninety-six hours, lytic substances are present in sufficient amounts to disintegrate the toxin.

Repeated examinations of the plasma carbon dioxid in no instance demonstrate even the slightest degree of acidosis in the most extensive burns.

In the treatment, different methods are employed in the various stages of the burn. The patient is undressed immediately or not, depending on the degree of shock. As soon as possible, all clothing should be removed, and an electric cabinet placed over the bed. The burned area is then covered with gauze saturated with a solution of ½-of-1-per-cent solution of novocain with 10 minims of 1:1,000 adrenalin to each fluid ounce. When the patient has reacted from the shock, the area of a second-degree burn has become sufficiently anesthetized to allow the removal of the burned skin and opening of the blebs without causing pain. If the burn is of the third degree, the patient is anesthetized, and careful débridement is done within twenty-four hours.

Fluid is administered only by mouth, but when rapid introduction is thought necessary, the intravenous method may be used.

The novocain packs are used for from forty-eight to ninety-six hours, depending upon the extent of the burn and the time at which débridement was performed. On their removal, the area is sprayed every three hours with a fresh 2-per-cent solution of dichloramin-T. In less extensive burns, packs of normal saline solution are used.

CHARLES H. FRAZIER, *Chairman,*
JONATHAN M. WAINWRIGHT,
JOHN B. LOWMAN,
ISIDOR S. RAVDIN.

THE SUBNORMAL CHILD

The necessity for the establishment of modern psychopathic hospitals and laboratories as part of the system for dealing with mental defectives and other classes of wards of the State should be appreciated to its fullest extent. The system by which youthful subnormal types are sent to penal institutions where the environment is the worst possible for persons mentally unstable, should be condemned, also the practice of permitting laymen to pass upon the mentality of prisoners. An opinion has been expressed that only by treating subnormal children between the ages of two and four years, can any progress be made with criminal types.

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JANUARY, 1926

EDITORIALS

RETROSPECT AND RESOLUTIONS

A survey of the medical activities of 1925 discloses some improvement over those of 1924. The county-society meetings have increased in interest and attendance, and medical organizations are gradually learning that the more frequent the meetings, the larger will be the audiences present. Those counties that hibernate for two months, and then try to wake up for a little time to imbibe the scanty mental nourishment offered to carry them over another period of inactivity, are becoming fewer from year to year. Presidents and councilors are getting about more, in a laudable effort to activate the less favored counties and themselves by contact.

In the field of periodic health examinations, however, progress is slow. Why are we doing so few of these examinations? Are we suffering from an inferiority complex? If so, let us prescribe for ourselves a large dose of psychotherapy. We know that examining the apparently healthy is the best training we can have in detecting oncoming diseases in the "preclinical" stage—no, that is a foolish and unnecessary term—in stages earlier than those in which we are accustomed to see them. Hence, the opportunity to make "health examinations" should be sought eagerly by every physician who is ambitious to improve his diagnostic ability.

How many persons first consult their family physician when they are refused by an insurance examiner? How many "risks" that should have been turned down are accepted by examiners? The medical directors of the large insurance companies know, and they hope the number will be diminished when the average member of the profession has had more experience in examining and studying the apparently healthy. In justice to the people who depend upon us for care, we should not give them less than the best—and the "best" entails *prevention* of disease rather than *cure*. It is not only ethical, it is our bounden duty to urge our friends and patients to have periodic health examinations.

In the realm of medical defense, it has been shown that this function is best handled by organized medicine. The State Society commands the more willing coöperation of the profession as witnesses; also, it puts the fear of God in the hearts of the plaintiff and his attorney. When it comes to payment of an amount awarded by a jury, or decided upon as a compromise, it is a good thing to have a commercial policy covering such contingencies. Let us all see that our county society dues are paid promptly, so that, if need arise, we shall be entitled to the benefits of the defense fund of the State Society.

And, since we are making good resolutions, let us go early and have our own periodic health examination. Let us see that every member of our family is immunized against typhoid, diphtheria, and scarlet fever.

Let us resolve to give more care and attention generally to the children of a preschool age belonging to our clientele.

Let us determine to give some time to the study of the teeth—our own, our family's, and our patients'. Let us study and apply proper principles of feeding for the production of healthy teeth, beginning in the prenatal period. Let us study dental films, and show our friend, the dentist, that we appreciate and esteem his coöperation. Nothing will do more to maintain a high standard of dental work in a community than the general knowledge that this work is

intelligently watched by an instructed medical profession.

Let us coöperate more closely with the druggist, for pharmacy is the handmaid of medicine.

Let us devote more care to the shaping of sanitary laws—for this is the province of the physician. Legislators should be instructed by the profession, and they should be elected, and if necessary defeated, by the doctors' votes and the doctors' influence.

May 1926 be marked by greater civic activities on the part of the medical profession throughout Pennsylvania. May there be a general awakening to the fact that it is the physician's duty to keep the people well, be they young or old, rich or poor, in school, in factory, in business or profession, or in places of amusement.

The ATLANTIC MEDICAL JOURNAL greets the new year with the anticipation of great things about to come to pass. May its readers be participants in all the blessings showered bountifully upon an active and vigorous profession! May we, then, minister well to the needs of our people, so that we, in turn, may enjoy a happy and prosperous New Year.

A NEW SERIES ON THE HEART

Short and snappy articles on the heart, issued by the Pennsylvania Heart Association, will appear in several numbers of the JOURNAL this year. Each will carry a message to the physician on the exceedingly valuable subject of conditions referable to the heart. They will be issued under the caption "The Heart."

RUSSELL H. CONWELL

In the death of Dr. Russell H. Conwell, Philadelphia not only loses one of its foremost and most useful citizens, but the Nation a preacher and philanthropist who was universally respected and loved. Russell H. Conwell and "Acres of Diamonds" for all time will remain linked together. Dr. Conwell was the founder of Temple University, and the Samaritan and Great Heart Hospitals, and erected the Temple Baptist Church.

It was as the founder of Temple University that he put his own city and the hundreds of thousands of the recipients of its bounty under an obligation of gratitude and regard. The "Philadelphia Award" was only one of many expressions of the estimation in which he and Temple were held in his community. Philadelphia will not soon again know his like.

"He is dead—such of him as could die—and we see his fortune in men and women helped to help themselves and others; in relief for the afflicted; in a promise for those who want to tap the great reservoirs of learning, so they may carry on the work of the ages in good order and to the benefit of humanity."

DR. RICHARDSON'S ARTICLE ON THE A. M. A.

Every member of the Medical Society of the State of Pennsylvania should read the very interesting address by Dr. Charles W. Richardson, which appears in the department of this JOURNAL devoted to the Medical Society of Delaware. This article describes in detail the organization of the American Medical Association, with an outline of the work of the various bureaus and councils, and a perusal of it will confer an added appreciation of the privilege of membership in this great organization. Turn to page 277.

NEWSPAPER PSYCHOLOGY

"Should we not give more thought to a thorough understanding of newspaper psychology? All of us realize that the public is impressed with the first statements that may be printed in regard to any item of news, and that it does not take the trouble to read explanations or corrections which may be made later. Reporters as a class are just as considerate in their dealings as are other people, and when treated fairly, much of the 'trouble with the press' is eliminated.

"At the present time, three Eastern hospitals for the mentally ill are held responsible for the discharge of a patient who subsequently committed two atrocious murders. From a distance, two of these institutions seem entirely blameless, but damage has been done to their reputations by the adverse publicity of first reports, and indirectly this is passed along to similar institutions throughout the country. Explanations will not undo the irreparable harm that has been inflicted, and much of this could have been avoided if those in charge had immediately given to the newspapers their side of the story instead of delaying or refusing interviews to representatives of the press." (*Modern Hospital,* October, 1925.)

This article brings to mind the occasions when a physician is placed under arrest on the charge of having committed an abortion, and front-page publicity is given, glaring headlines being used quickly to catch the eye of the reader. A few days later, the physician is exonerated. The newspapers, as a rule, will give no publicity to

the acquittal. If a notice to this effect is given, invariably it is placed in some inconspicuous portion of its columns where it is not apt to be seen. The damage to the physician's reputation has been done. There are other circumstances, too, that receive publicity, with no subsequent correction. The newspapers apparently do not stop to consider the harm that has resulted, and the medical profession simply accepts the situation as one of the crosses it must bear.

NEW EDITOR OF COLORADO MEDICINE

Beginning with the January issue of *Colorado Medicine,* Dr. C. F. Kemper will assume the duties of editor. The ATLANTIC MEDICAL JOURNAL congratulates the readers of *Colorado Medicine* upon the appointment of the new editor, and extends best wishes to the "connoisseur of commas who writes with a splutter-proof pen." May his editorial muse always be in the ascendancy!

DOZING AT THE WHEEL

"Accidents caused by a motor-driver's falling asleep are not infrequent," asserts a writer in the *British Medical Journal* (London). The death of Mr. Hamilton Drummond, surgeon at the Royal Victoria Infirmary, Newcastle, calls attention, he says, to a possible cause of some mysterious motor accidents. We read:

"Mr. Drummond died from injuries received through the overturning of the car he was driving. The car swerved suddenly to the left, and ran into a gate. At the coroner's inquest it was reported that before he died, Mr. Drummond said, "I dozed over, pulled in, could not recover. Have you ever had that experience? I have done this before, but once too often." Such an accident may easily occur with an overtired driver, soothed to greater somnolence by the rhythm of the engine and the monotonous grind of the gear. A doctor tells us that on one occasion while his new car was being driven to London by an employee of the manufacturers, he suddenly noticed that the driver was slipping down between the steering pillar and the seat. The man was asleep; he explained the occurrence by stating that he had been driving for three days and nights! Medical men who drive their own cars must be more liable than most people to the risk of falling asleep at the wheel, since they often have many long days of tiring work. Since Mr. Drummond's death, other medical men have told us of their terrifying experiences in dozing while driving, and more than one has said that when he found the inclination to sleep overpowering, he pulled up in some safe place by the side of a road and took a short nap. It seems possible that many of the fatal accidents which, being unaccountable, have been attributed to a burst tire or to some derangement of the steering apparatus, may really have been due to the driver falling asleep; the evidence of its effect in causing accidents is sufficient to suggest that motorists who are very tired would be wise to refrain from driving on monotonous country roads." (*Literary Digest.*)

Every physician who reads this article, if he drives his own car, will recall more or less numerous instances when he has dozed at the wheel, to be awakened by the ditching of the car, or to find it off the road in the rough, with possibly little or no damage done. Some physicians' wives have told of occasions when their husbands have asked that they accompany them on calls, in order to make sure of keeping awake. The physician, from past experience, knows the possibility of falling asleep at the wheel when he is exhausted, and its consequences. The disappearance of a physician is recalled. The searching party found tracks in the soft dirt alongside a road frequented by the physician in his daily practice and which skirted a river. There an automobile had made a very sudden turn from the road, and possibly had gone into the stream. Upon dredging the river, the automobile, a roadster, was recovered, with the physician in the car. A claim was filed by the physician's family with the insurance company in which he had an accident policy. The company disputed the idea of an accident, claiming death was due to suicide. The case finally terminated in the courts. The lower court found a verdict for the company. The family appealed to the higher court, which reversed the verdict, as there was no evidence to prove suicide, and in such cases accident must be accepted. In this case, at no time was the possibility considered that this physician might have "dozed at the wheel."

When the physician is cognizant of this danger, it would be better judgment to pull to one side of the road and take "forty winks," and then proceed with greater confidence. Better be safe than sorry!

OPTOMETRISTS AND THE TITLE "DR."

According to press reports, Attorney General U. S. Webb has advised the California State Board of Optometry that California optometrists cannot legally use the prefix "Doctor" or "Dr.", and can only add the affix "Opt.D." or "O.D." when graduated from an accredited school of optometry; also that no California optometrist may hold out to his prospective patients that he possesses "special knowledge" of optometry as described in the act which defines optometry as a mechanical and not a medical science.

The above article from the *Journal of the American Medical Association* impels a feeling

that California should be congratulated on her further efforts to safeguard the health and eyesight of her citizens. If California can stop this misuse of the title "Doctor" then Pennsylvania can and ought to do it. Let it not be said that Pennsylvania does not have the preservation of the health and eyesight of her citizens as one of her most vital considerations.

Wherever we go and whatever we read, we see the misuse of the title "Dr.," not only by men and women engaged in this mechanical science, but in other endeavors as well. A chiropractor in Philadelphia, has on his front window a sign, "Specialty Orthopedics," and hanging from the front and rear license tags of his automobile are tags on which is the word *physician*. He may fool the traffic officers, but to what extent does he fool the public?

UNIVERSITY OF BERLIN EXCLUDES AMERICAN DOCTORS

Exclusion of American doctors from clinics at the University of Berlin, Germany, will not be a great hardship to physicians going to Europe for postgraduate work, though the ill-feeling which this move will tend to create is to be deplored. The action of the faculty of the University of Berlin in refusing admittance to American physicians is in the nature of reprisals by which the German university hopes to raise the boycott against German representatives at international scientific associations. It must be borne in mind that Vienna by far transcends Berlin in importance as a medical center to which American physicians, as well as those of other nations, pilgrim for postgraduate work, and also that we in America are contributing as much to medical science as the Germans.

The act of exclusion comes as a distinct surprise, inasmuch as we had believed that only the most cordial relations existed. Since the war, there has been a gradual resumption of friendly relations between the so-called German and American scientific groups. It would be very difficult to obtain exact data regarding which groups excluded continental scientists and which have resumed relationships, and it would be quite a task to gather this information. So far as medicine is concerned, Vienna was and is the place where most American doctors go when they visit the Continent. Switzerland also is a center of medical science. Today, Vienna still is a great medical city, as is Prague. Vienna has encouraged a resumption of the prewar cordiality and visitation. It may be said that Berlin never attracted any great number of American doctors of medicine.

BRITISH HEALTH-INSURANCE SCANDAL

Ever since national health insurance came into force, there has been much dissatisfaction with the benefits provided under it, a special investigator writes in *London Answers*. Unscrupulous chemists have shamelessly exploited the scheme, and the service given by some doctors—service which, at best, has often been what a coroner called "penny-in-the-slot treatment"—has aroused great indignation.

At the outset there was a good deal of hostility to State insurance by both chemists and doctors, and, though much of it has died down, it still crops up in connection with matters which, from the patient's point of view, are comparatively unimportant. There are chemists who discriminate against insured persons by supplying them with pills in a paper bag, without labels or directions, and there are doctors whose certificates are offensive or worthless or both.

One practitioner actually issued the following "going-off" certificate: "I hereby certify that I have examined you, and that in my opinion you have remained incapable of work up to and including to-day by reason of death, and may be fit to resume work elsewhere."

Negligence in issuing certificates is common. In a recent case some were signed in blank, the nurse being left to fill them in, and the issuer did not see the patient for three months. Another panel doctor gave thirty-two continuation certificates without seeing the patient, and in a northern county a third issued weekly certificates from April to December in similar circumstances.

And this looseness is not confined to "chronics" or known cases. A doctor was sent for on three successive days, but did not attend. On the first day, however, he certified that the patient was suffering from a septic throat; on the following day, the doctor's wife gave a certificate—for which she charged one shilling—showing that the ailment was due to gastritis; and on the third day, another doctor diagnosed erysipelas.

But, in general, the cause of dissatisfaction with the State scheme lies deeper than a faint survival of the determination on the part of some, particularly doctors, to make it unworkable. It is rooted in greed, dishonesty, and incompetence.

An exceptionally large proportion of panel prescriptions are dispensed inaccurately, generally for the sake of saving at the expense of insured persons. One chemist recently altered a prescription to this end; and another, it was

proved, had repeatedly supplied smaller quantities of drugs and appliances than those ordered by the doctor. In a mixture made up in a London borough, there was a 73% deficiency of one ingredient, which happened to be expensive.

More serious still are the trickery and negligence of some doctors, whose misconduct is not only a breach of their agreement, but a betrayal of the insured.

A disgraceful practice is charging panel patients fees for service to which they are entitled without payment. The treatment of patients, too, is sometimes outrageous.

A certain panel doctor habitually sent his wife to attend patients, notwithstanding that she had no medical qualifications. Allied sometimes with gross blundering and incapacity is heartless neglect, which has caused many people to abominate the panel system.

We may congratulate ourselves that we have escaped this outcome of efforts to introduce compulsory health insurance in Pennsylvania.

BAD HOME EXAMPLE FOR CHILDREN

Children worry far more than is commonly supposed, states Dr. Richard Painter, head of the All-Philadelphia Child Guidance Clinic. A father's cruelty to his wife, or even a negative condition of neglect in the home, invariably results in the acquiring of a dangerous antisocial viewpoint by the child. Bad behavior at school, meanness toward other children, and ungovernable rages are the results of such environment.

"We treat misbehaving children of average mental capacity," said Dr. Painter. "The common crimes and other evidences of abnormal mental traits are to be handled in different children from individual angles. There are almost as many reasons for this failing as there are children, and the same cause in different children has to be attacked from individual angles. A lack of chemical balance in the glands may cause a child to steal in order to obtain the sugar that this internal lack makes him crave. Hunger which parents do not realize exists, sometimes is another reason. Evil home conditions, breeding an antisocial attitude, is another cause. Children worry about such things, though they are reluctant about telling others what they feel."

The study has included all habits and proclivities that make children hard for parents and teachers to handle, and that eventually may turn them into enemies of society. It does not mean a mere objective scrutiny, such as one might give to creatures under glass in a museum or behind bars at a zoo. It means a sympathetic and humane consideration, in the light of science, of the problems of children prompted, by an infelicitous environment or perhaps by an unfortunate heredity, to do the things that make them undesirable little citizens.

CAN ANYTHING BE ULTRA-SCIENTIFIC?

This word is frequently used in discussing medical literature and medical education, but it is not a good word, as it does not convey the meaning intended by its user. He wishes to criticize that which is not well designed to accomplish its purpose, but inadvertently he pays it a certain tribute by associating it with the name of science.

If a thing is not scientific, all the ultras in the world will not make it so. For example, an article published for practitioners of medicine should be readable and interesting, useful or stimulating. If it fails in these essentials, no amount of erudition or familiarity with technical procedures will justify its being called scientific. Medical schools should graduate young men well fitted for the duties of the general practice of medicine. Properly to equip students, requires that the schools have accurate knowledge of present-day conditions of practice and of the functions which the practitioner may assume with credit to himself and benefit to the public. This knowledge must be gained by the method of science, which is research, a statistical inquiry being made as to the situations which practitioners are meeting most often. Certainly, health preservation should be included in the curriculum, and no school can be called scientific unless its graduates are efficient advisers in regard to health preservation.

When we say "ultrascientific" we really mean abstruse, unduly technical, or impractical. *Ultra* means beyond, and the things which are beyond science belong to theology or metaphysics.

WOMAN AND THE CIGARETTE

An editorial in a morning newspaper recently stated: "A third, and frequently overlooked reason for the gain in cigarette consumption in the United States is the prevalence of smoking among women."

One of the hospital problems to-day is: shall women patients be permitted to smoke? There is an old saying that if a woman contracts a habit, she is far more active in the habit than a man. Women who are inveterate smokers, when advised that they require hospital care, not

infrequently ask if women are permitted to smoke in the hospital to which they are to be sent. If not, the woman frequently refuses to go, and insists upon being admitted to a hospital where this privilege is accorded. The rule in this regard apparently is not universal, as there are some private and general hospitals that still withhold this privilege.

We must deal with the conventionalities of the day, and if any hospital permits men to smoke, then the same privilege should be allowed women. There are hospitals that will not permit smoking, except by patients in private rooms; others extend the privilege to patients in the semiprivate wards, but not the public wards. The writer has yet to see a woman smoke in a semiprivate ward, although the desire to do so frequently has been expressed.

Hospitals having men and women interns will have to meet this condition, too. If male interns are permitted to smoke in their quarters, the same privilege will have to be accorded to the women interns. In institutions where there are women interns only, if the privilege is denied, the ones who smoke are out of luck.

FIRST AID NEGLECTED

When an automobile breaks down, it is rarely that the driver does not proceed intelligently to trace the source of the trouble and find the remedy. Yet so little are the elements of first aid understood, that the very person who could so quickly master a mechanical difficulty will stand by in a panic while a fellow victim of an automobile accident bleeds to death from a severed artery.

Recalling that last year seven times as many persons were killed in motor accidents in this country as the Army lost in the Spanish-American War from typhoid and disease in the camps and from Spanish bullets, it is interesting to read what Dr. Herman Bundensen, Chicago's health commissioner, has to say of death through neglect in accidents on the road. He holds that a large percentage of the injured could be saved if people did not lose their heads at the critical time when an artery is cut.

"If they understood the simple rudiments of first aid, a handkerchief and a pencil or ordinary stick of wood could be used as a tourniquet, thus stopping hemorrhage until medical help arrived. The autoist, especially, is in need of first-aid knowledge. The common injuries which occur through automobile accidents are cut arteries, fractures, or broken bones, cuts and bruises. Many minor injuries, which through neglect prove fatal, occur in taking off spare tires. Every wound, no matter how slight, should immediately be swabbed with iodin. Splints, used in case of fracture, will keep the limb at rest and relieve the patient of much pain until placed in the hands of the physician. When you drive, carry a small first-aid kit, know how to use it, and above all things, keep cool in the time of accident."

JOTS AND TITTLES

MEDICOLEGAL NOTES

The Supreme Court of Illinois has ruled that an employer is liable for compensation for x-ray burns in examination of any employee if the examination was required by the employer.

The Supreme Court of Wisconsin has ruled that a chiropractor is not a "legally qualified physician."

A recent ruling by the Massachusetts Supreme Court requires the College of Physicians and Surgeons, of Boston, to pay damages in a suit brought by the executor for the estate of a patient to whom it was claimed poison had been administered in mistake for medicine. The College held that it was a public charity, and hence not liable; but the Court ruled that the College is an institution which may be said to be operated for personal gain, and must pay damages.

That a patient cannot be held in a hospital until he pays his bill, is the opinion of the head of one of the large Philadelphia hospitals. This virtually would be imprisonment for debt, and would be wrong not only legally but morally.

Criticism of the bill, introduced by Representative Lineberger at Washington, ordering participation of this country in the international narcotic conference to be held in Philadelphia this year, was expressed by Representative Stephen G. Porter, of Pittsburgh, chairman of the House Foreign Affairs Committee, himself a student of the drug question for many years. Mr. Porter declared it would be unwise to bring a controversial question to the site of a celebration.

IN THE FIELD OF SCIENTIFIC RESEARCH

That an extract of liver has been obtained which possesses the property of reducing to a certain extent arterial hypertension when there are no complications, has been reported by Dr. W. J. MacDonald, of the University of Toronto. The substance in the extract which produces the effect cited is not yet known, although it may be explained by a combination of histamin and choline, which have been shown to be present. Intramuscular injection is more efficacious than intravenous, but no method of determining the dosage in units for any given case has yet been determined, nor yet a method of selecting cases for treatment. Dr. MacDonald's first report, presented last spring, was based on the results of treatment in 33 cases: 8 of these suffered reactions of varying severity; 25 were without disagreeable symptoms; and in all, the blood pressure was lowered, the average systolic fall being 66 mm. and the diastolic, 28 mm. The fall usually lasted from one to three or more days and the return to high pressure was gradual. The findings announced in the preliminary report have been confirmed, according to the Doctor, by animal experiments and clinical tests on human beings, as well as by a preliminary chemical analysis.

The most recent development in x-ray work is the discovery of chemicals which, administered to patients, have the effect of staining certain organs of the body so that they can be photographed more successfully. Much discussion followed the description of Graham's method for cholecystography by means of sodium tetraiodophenolphthalein administered by mouth. Now, Dr. Jacques Forestier, of Aix-les-Bains, France, has discovered that injections of iodized oil will render the lung cavity opaque. This method promises to be of aid in diagnosis of tuberculosis.

Successful use of iodin in preoperative treatment of goiter has been announced by Dr. William Francis Rienhoff, Jr., assistant surgeon to Johns Hopkins Hospital. Ninety per cent of his patients who received this treatment came through the operations well, and the method is expected to reduce the dangers of thyroidectomy.

The infection of paresis patients with malaria organisms, according to Dr. Sydney Kuh, psychiatrist at Rush Medical College, Chicago, is not a cure for paresis, but in certain persons has checked the disease for a time. Patients may be brought back to normal temporarily, and may be restored to usefulness for a given length of time, although experiments are not yet far enough advanced to indicate definitely what the final results will be. The treatment is unsuccessful if the patient shows a negative test for quinin tolerance, as this drug is necessary to check the malaria. With a negative test, death might result sooner from malaria than from paresis. Experiments in Europe have been so successful that patients have been able to return to their work for a time, although we cannot hope to effect a cure by this means. Yet, since it does prolong life and usefulness, it is at least a step forward.

The fear that tuberculous infection will attack the victims of war gas is said by Major General Amos Fries, chief of the Chemical Warfare Service, to be a pure figment of the imagination. Exhaustive scientific investigation during and since the war by British, French, and American doctors has failed to disclose any case whatever of evil after-effects of gassing. Gassed men either recover or die, and General Fries therefore believes this to be the most humane method of warfare, especially in view of the fact that "deaths from gas are at least lower than one to ten compared with other war weapons, permanent disabilities are practically negligible, and after-effects are of no moment.

That they have been able to produce cancer in rats by giving them food deficient in vitamin A, was announced by members of the National Nutrition Institute of Japan at a conference on tropical medicine held at Tokyo. A short while later, announcements were published that Dr. W. E. Gye and J. E. Barnard (who some months ago announced the isolation of a microörganism, which, combined with a "specific agent," causes carcinoma) had inoculated with the living organisms several workers in their laboratory. That immunity was produced by this method appeared to be a fact, since subsequent inoculation with the germ plus its chemical agent failed to produce cancer. Although hopeful that a method of immunization has been discovered, Mr. Barnard cautioned that the results must be checked again and again under varying conditions before it would be possible to assume that real progress has been made. The nature of the chemical agent with which the microörganism operates has as yet not been determined. The Medical Research Council attaches such value to the experiments, however, that it is having a new laboratory built for the use of the workers at Millhill, Middlesex, England. These two groups of investigators are attacking the subject from totally different angles, but apparently producing related results. It will be interesting to see whether some connection is discovered between nutrition and the "specific agent" of Dr. Gye and Mr. Barnard.

Studies reported before the congress of the Royal Institute of Public Health, held at Brighton, England, indicate that sunlight, "either natural or artificial, when properly administered, may have a definitely beneficial effect on mental activity." Children, handicapped in school work by illness, when treated with the aid of sunlight, caught up with and even outdistanced their classmates. However, this applies only to direct exposure to the sun's rays. The Bryce Thompson Institute for Plant Research, Yonkers, N. Y., has announced, as the result of experiments, that animals, *unlike plants,* need ultraviolet radiation, and this cannot be secured through glass, as its effect is to filter out the shorter wave lengths beyond the visible spectrum.

Problems of Social Medicine

The very poor and the very rich are profiting most by the scientific advances in medicine; as usual, the middle class—financially speaking—is suffering most by the "passing of the family physician." as it was termed by William Potter, president of the Board of Trustees of Jefferson, in a recent address. The British Hospital Association, also, was recently told that it is increasingly difficult for those of moderate means to secure the advantages of modern advances in medicine on account of the expense, and that large numbers are forced to seek treatment in voluntary hospitals, with the result that waiting lists attain inordinate dimensions. Among the suggestions proposed for relief was the extension of hospital wards to pay patients. Regardless of any means taken to the contrary, specialists are bound to increase and general practitioners to decrease unless the progress of medical science is stayed, and the cost of medical service will continue to rise until it is utterly beyond the reach of the "average consumer." Probably the solution will be found, as it has so frequently been found in other problems, in coöperation of some type. Whether this will result in further development of group medicine, subsidizing the physician in the sparsely settled community, or some form of medical insurance, is yet to be seen. Many experiments will doubtless be tried before the vexed question is settled, and in the meantime, "the consumer pays."

That the problem of dependency is created in large measure by illness, physical and mental; and for that reason, care of the dependent is, partly, care of the chronically ill is set forth in an article published in the *Nation's Health,* by Dr. Ellen C. Potter, Secretary of Welfare for Pennsylvania. Of the inmates of the almshouses of Pennsylvania in 1923, only 10 per cent were able-bodied, while 90 per cent were infirm, chronically ill, or feeble-minded. Under the present system, with an expenditure of $5,000,000, our State has secured only a type of poor-relief against which there is great public prejudice. We are coming to a day when larger numbers of surviving adults will be sufferers from chronic disease of the heart, kidneys, vascular system, and metabolic disorders, and about this type of dependency the future problems will center. For these reasons, then, it is apparent that there should be a further evolution of the county institution from a "home" to a hospital. A redistribution of the yearly sum appropriated for the public welfare would do much to

improve the situation. The county physicians are in a strategic position to urge this change.

The council of the Chicago Medical Society, in a recent resolution, approved free medical service to all persons who receive charity of any other kind or description, but deplored the tendency of hospitals, social agencies, and health departments to pauperize the public by giving free service to those who can afford to pay even a partial fee, and concluded that members of the Society who aid in this practice may be brought before the ethical relations committee.

ORGANIZATION HINTS

Chiropractors are evidently attempting to profit by our plan for periodic health examinations, and are advising everybody to have a "spinal analysis" once or twice a year!

In a campaign against "dead beats," doctors in Atchinson, Kan., have decided to placard their office walls with the names of patients who refuse to pay their bills, according to reports from the daily press.

The British National Institute of Industrial Psychology is engaging in a study of such things as lighting, heating, ventilation, the movements of the body, cultivation of interest, the avoidance of fatigue, and occupational guidance—in other words, of the whole human factor in relation to the machine and job, according to its president, the Earl of Balfour.

The Massachusetts Society for Mental Hygiene is sponsoring a course of fifteen practical lectures on the mental health of children, to be given at the Boston University School of Education.

The Committee on Periodic Health Examinations of the Medical Society of the County of New York has undertaken the observation of health-examination work being done at the East Harlem Health Center. This offers local physicians a chance to perfect themselves in the performance of health examinations along thorough, scientific lines.

INDUSTRIAL MEDICINE

INDUSTRIAL HYGIENE SESSION

At the recent joint all-day meeting of the Philadelphia Health Council and Tuberculosis Association, the Philadelphia Association of Industrial Physicians, and the Public-Health and Industrial-Hygiene Section of the Philadelphia College of Physicians, the afternoon session was devoted to industrial medicine, with the presentation of three very interesting and stimulating papers.

Dr. Sayers of the Bureau of Mines discussed the carbon-monoxid hazard in industry, and demonstrated the pyrotannic carbon-monoxid detector. Dr. McConnell, of the Health Council, discussed "Barriers to Progress of Industrial Medical Services," and Professor Elton Mayo, of the Industrial-Service Bureau of the Wharton School of the University of Pennsylvania, presented a most interesting and stimulating paper on "Fatigue in Industry." Abstracts of the second and third papers are given below.

Barriers to Progress of Industrial Medical Services.—Wherever competent medical supervision of men has existed, there is no dearth of facts to convince the skeptical of its value as an aid to the scientific selection of workers, their placement based upon the mental and physical requirements of the job, and their maintenance and retention in a given industry—all designed to aid in maximum production at minimum costs. Why, then, has a service which has so much to offer been called to function in so few plants? The Philadelphia survey showed that in 193 concerns having 300 or more employees, only 76 have organized medical service. In plants with less than 300, only a very few offer any medical service.

The reasons advanced by Dr. McConnell for this condition are as follows:

(1) *Incompetent physicians* with defective training and lack of responsibility. Many men accept industrial positions merely to tide over the period of practice building. These men never enter the plant or working places of employees under their supervision, and are what are frequently referred to as "finger-wrapper," first-aid men.

It may not be considered a digression to outline briefly the services rendered by successful industrial physicians. With their knowledge of the processes carried on within their plants, of information concerning materials used, the sources of danger, and the expertness required of workers for various jobs, they are qualified to select men who are mentally and physically adapted to fill occurring vacancies. While their primary purpose of making initial and periodical physical examinations is to exclude and control communicable diseases, which protection seems only simple justice to fellow-workers, their chief object lies in detecting incipient defects and diseases, not for the purpose of excluding, but for using the information in adjusting the duties of the individual to his physical and mental shortcomings. As a result, the worker's productiveness will remain at a maximum commensurate with his abilities, without at the same time endangering himself or causing injury to others. Periodic physical examinations also permit of a study of the physiologic effects of particular types of work. They provide a means of detecting occupational diseases among workers, as well as supplying a constant check upon the efficiency of sanitary and safety devices used to prevent the occurrence of industrial hazards.

The duties of the medical department do not end with physical examinations and subsequent treatment of injuries and illnesses until the patient is well, or turned over to the family physician or specialist, as the case may be; but if functioning properly, that department is alert to the effects of fatigue, harmful fumes, gases and dusts, and of defective ventilation and illumination. The industrial physician should be able to advise with other industrial experts, such as safety, ventilating, sanitary, and illuminating engineers, concerning means and methods of assuring adequate protection against the insidious causes of bodily damage. Frequently, he will not have their assistance, and therefore must function alone.

(2) *The Omission of Instruction in the University.* Only a few of the medical departments of universities offer to the physician an opportunity to prepare himself for service in industry. The fact that usually no instruction is offered medical students in this field leads many to believe none is needed.

If medical schools allotted the same amount of time for this specialty as they do for the various other specialties, fewer graduates would stumble unknowingly into a field of work which requires specialized preparation.

(3) *The Unsympathetic Public-Health Officer.* There has been a regrettable tendency on the part of local health departments to omit industrial health in their program. Others, while interested, are unable to convince their appropriating committees of the value of such a program, and they therefore lack the funds

to carry on the work. Enormous sums of money are spent in the control and prevention of disease, in providing pure drinking water and food products from healthy stock, and in promoting the health of children before and after entrance in the public schools. From school, many enter the ranks of industrial workers. Why should such worthy energies cease at the door of industry? The gap between the public-health officer and the industrial physician must be bridged for the complete success of either. An excellent public-health program fails in the absence of an industrial program, as does similarly an industrial program in the absence of a community-health program.

(4) *The Careless Plant Manager.* The plant management sometimes fails to utilize the medical department to its fullest extent. A willing medical department is frequently handicapped by lack of authority and incomplete equipment. The selection of the physician, in some instances, is left to a subordinate who is more interested in the personal attributes of the man he chooses than in his ability. In the selection of a specialist in any other field, plant managers would use more judgment.

When the choice of an industrial physician based on qualifications is made, he should be adequately paid for his services, and given ample authority to enable him to attain results. He should be made responsible directly to the management.

(5) *Failure of Small Plants to Organize Joint Industrial Medical Services.* That the need for medical services in small plants is relatively as great as in large plants is readily admitted. The attainment of such a service is not as easily accomplished.

The small plant finds difficulty in securing the medical and nursing service which it needs in the small amounts which are required for its employees at a cost which is justifiable. It is only by organizing a coöperative service for a number of such plants that medical supervision may be had by each at a cost not out of proportion to that which large plants are obliged to pay.

The plans of the Philadelphia Health Council and Tuberculosis Committee for organizing such services were described in a recent issue of the JOURNAL.

Fatigue and Industry.—This paper discussed the work of Janet, Kleitinan, and others on fatigue with special reference to the development of states of pessimistic revery and crises of revery produced by work which is muscularly fatiguing, yet permits or promotes irrelevant revery with lowering of the psychological tension and consequent loss of intimate relation with the reality of the immediate surroundings. Such a condition was found to be responsible for a greatly lowered efficiency in the spinning department of a textile mill and a 250% labor turnover per year in this department. The monotony of the work combined with the muscular fatigue, produced pessimistic or paranoid preoccupations with crises of revery leading to quitting the factory.

The introduction of four ten-minute rest periods in a ten-hour day, with complete relaxation in a horizontal position on cots placed beside the mule, even though irregularly observed, increased the efficiency from under seventy per cent to over eighty per cent, with a great reduction in turnover.

Intermission of these rest periods on account of increased demands on the industry was accompanied by an immediate drop in efficiency to the old low level.

Such rest pauses must be accompanied by instruction in the technic of relaxation, and should be of regular or assured incidence.

Many types of factory operation resemble spinning, in that they encourage states of revery mentally harmful to the individual.

In this study, an attempt was made to measure variations in "organic integration" as evidences of the beginning of this state. For this purpose, the diurnal variations of blood pressure were used to indicate variations of vasomotor tone. Such measurements were made on two selected workers in this factory after twelve months of regular rest periods and compared with similar measurements on workers in a similar factory having no rest periods. The former observations showed approximation, in all but one measurement, to Moot's 1-2-3 rule, with pulse pressure equaling 1, diastolic 2, and systolic 3. They showed the normal ten-point increments of systolic and pulse pressures on standing. The workers in the second factory showed all, except one, of the measurements of pulse pressure exceeding the above rule of Moot. Workers tested in the first factory gave the normal increment of ten points in both systolic and diastolic pressures on standing after lying down, while those in the second factory showed little or no increment, or else a fall.

These results are insufficient to be conclusive, but they are quite suggestive.

ANNUAL CONGRESS OF THE NATIONAL SAFETY COUNCIL

At the annual congress of the National Safety Council held at Cleveland, Ohio, September 28 to October 2, 1925, several reports of special interest to industrial physicians were presented.

Among the subjects directly related to health matters was the report of the sub-committee on benzol poisoning which presented, through Dr. C. E. A. Winslow, results of experimental work it had carried on during the year in which it was found that a concentration of more than one hundred parts per million of benzol in the atmosphere of the work room was likely to produce toxic symptoms among workers. During the coming year, work will be directed toward the investigation of nontoxic substitute solvents for benzol.

Dr. P. B. Magnuson, of Chicago, said that surgeons examining lame-back cases for compensation purposes must always keep in mind the relation of gout or other systemic infection to the claimed disability. Research has shown that 60 per cent of back disabilities are complicated by gout or other infections that keep the ligaments sore.

Dr. William F. Boos, of Boston, discussed the toxicity of certain chemicals used in industrial processes, such as nitrous fumes, turpentine, wood alcohol, acids and alkalies, chrome, cyanid, and phenol. Examples of poisoning, the results, and treatment were given. Dr. Boos stated that industrial copper poisoning is unknown, but that a trade anaphylaxis due to inhalation of trade dusts was being increasingly recognized by a symptom complex resembling that of hay fever—"swelling and watering of the mucous membranes of the nose and eyes, sneezing, cough, bronchitis, and asthma." This is seen most in workers in those trades subject to organic dusts containing protein, such as bakers, millers, leather workers, and also in carpenters and cabinet makers.—Abstracted from *The Nation's Health,* November, 1925.

HOSPITAL ACTIVITIES

Hospital Publications.—Many and varied are the types of publications sponsored or independently issued by the hospitals of the country. Some institutions issue, in addition to their annual report, with its statistical, financial, and scientific information, a journal devoted to the advancement of medical science. The *Bulletin of the Johns Hopkins Hospital* is an excellent example of the latter type of publication.

Again, the hospital may issue, annually or oftener, a finely edited and bound book, in which original articles that have appeared during the year by members of the staff are bound as reprints. The Philadelphia General Hospital Laboratories issue such a volume annually. But of not a little importance, in so far as hospital morale and community interest are concerned, is the less formal, chatty sheet which some hospitals issue as the spirit moves and time permits the administrator to turn his mind to literary endeavors. The Harrisburg Hospital's *House News,* for inside distribution only, is one of these interesting and useful publications. Not even dignified by having made the intimate acquaintance of a city printing press, nevertheless it is brimful of interest and information to the patients, staff, and nurses.

The Hospital Library.—Many a hospital physician has his ingenuity taxed to the utmost, to provide diversion and amusement for his convalescent patients. The radio has been a godsend to sick people, whether in the hospital or in the home, who are brought, as if by magic, in contact with many cities and many climes.

The hospital library for patients has not been developed as it should have been in our institutions. A fine example of the service of the city library to the hospital shut-ins is furnished by the Sioux City Public Library. The hospitals in this city are in reality substations of the central city branch, and to the sick are taken books on fiction, travel, history, and biography, by the interested and kindly city librarians. Not a few hospitals could profit by this plan, and the Journal suggests that hospitals in this, and near-by States, endeavor to make a similar arrangement with their local libraries.

The Hospital and Venereal-Disease Control.—A recent bulletin, issued by the United States Public Health Service, sets forth the duty of the hospital in furthering the campaign for the control of venereal disease. It states that: "Hospitals can render invaluable assistance to state, city, and county health departments by giving the general public information regarding this gigantic health problem. With that end in view, not only hospital superintendents and the medical staff, but nurses, social workers, and others coming in contact with the sick, should be educated to the point that they will assist in promoting this valuable health activity."

Williamsport Goes Over the Top.—A campaign for funds was conducted in the city of Williamsport, from October 19 to October 23, 1925. The goal was $600,000, and the object was to rebuild and otherwise modernize the Williamsport Hospital. Not only was the amount hoped for over-subscribed by $30,000, but the speed with which this was accomplished speaks well, not only for the public spirit, but also for the prosperity of the citizens of that city. But what the editor of this column wants to know is: how did the doctors of that city ever manage to accumulate the $51,530 which they so generously subscribed?

Hospitalizing Pneumonia.—A report of the Chicago Pneumonia Commission appears in the December number of the *Modern Hospital.* Dr. Pierce discusses somewhat in detail the results of the investigation of his committee.

Hospitals must realize that to treat lobar pneumonia in a crowded medical ward is to work an injustice, not only to the individual patient, but also to all the rest of the sick in the ward as well. Hospital isolation is essential, since all too frequently doctors, nurses, attendants, and other patients apparently contract pneumonia as a result of the proximity of a patient suffering with this disease. Where should the principles of preventive medicine be more carefully and scientifically applied than in the hospital?

The Mental Patient and the Hospital.—Dr. J. Allen Jackson, of Danville, Pa., in a current hospital journal discusses the hospitalization of the insane patient. He states that there are five sources of help for the mentally ill. They are home treatment, field clinic supervision, the general hospital, psychopathic service, and the mental hospital. Too often do general hospitals fail to do their share in caring for these patients. Prolonged incarceration is, of course, impossible in the general hospital, but frequently the mental patient can be detained long enough for a thorough clinical and laboratory study to be made. Mental illness is no more disgrace to the patient or his family than is acute appendicitis or lobar pneumonia. Hospitals should serve, in the fullest possible measure, both types of sickness.

Joint Meeting.—The Philadelphia Hospital Association and the Philadelphia League of Nursing Education held a joint meeting at the University Hospital, Philadelphia, on December 9th. Miss Amy Allison, Dr. Henry Page, Mr. Daniel Test, Miss S. Lillian Clayton, Mrs. Helen N. Botdorf, Miss Minnie Goodnow, and others spoke.

Construction of Hospital Unit.—The Samaritan Hospital, in Philadelphia, is now occupying its fine new private-room and surgical-clinic building. One can not but be favorably impressed with the attention to detail, utility, and beauty, which has been shown in the construction of this new hospital unit.

Dr. MacEachern Sails.—From the *Modern Hospital* we learn that Dr. Malcolm T. MacEachern, Director, American College of Surgeons' Hospital Activities, sailed from Vancouver, British Columbia, November 18th, for New Zealand, where he will make an extended study of the hospitals of that country, and of Australia, with a view toward suggesting improvements. While there he will attend the annual meeting of the New Zealand branch of the British Medical Association, which will be held at Timaru in February, and the International Hospital Conference, to be held in Dunedin in February. He will return to the United States in April, 1926.

New Nurses' Home.—Pennsylvania friends of Dr. John A. Lichty, formerly of Pittsburgh, will be glad to learn that the construction work on the new $250,000 nurses' home and training school for the Clifton Springs Sanatorium, Clifton Springs, New York, is now under way.

New Jersey News.—A new nurses' home, two and one-half stories in height, is being planned for the Christian Sanatorium, Hawthorne.

The new convalescent branch of the Newark City Hospital, Ivy Hill, South Orange, was recently opened to the public.

Announcement has been made by Miss Ida D. Squarewood, superintendent, that the new $200,000 home for the Bridgeton Hospital, Bridgeton, is now open to patients.

PUBLIC HEALTH

The Prevention of Epidemic Goiter is proving to be one of the most interesting and practical problems in preventive medicine. A number of states where goiter is common have taken up prevention of the disease as a public-school measure. The provincial officials of Canada and the health officials of some of the cantons of Switzerland have been employing the goiter-preventive treatment as a practical health measure since 1918.

The region around the Great Lakes has been called the "goiter belt." From one-fifth to one-half of all the school children in some of the cities in this territory show more or less enlargement of the thyroid gland. It is now a fairly well-established fact that goiter is due to a shortage of iodin in the body, and there is ample evidence to prove that the trouble may be prevented by giving a certain iodin ration; Numerous measures for supplying the necessary treatment have been worked out by different communities. Rochester, N. Y., places iodin in the municipal water supply, thus securing for every individual his due portion of iodin. Iodin is obtainable from various foods, such as sea fish, shell fish, and to a limited extent, from vegetables and fruits, although fruits and vegetables grown away from the salt water are apt not to have as much iodin as those grown nearer the sea. People who live away from the ocean are apt not to eat much sea food. If fresh sea food were available several times a week in the dietary, it would probably supply the amount of iodin needed by the body.—*Syracuse Department of Health Bulletin.*

Vaccination vs. Sanitation.—According to the *League of Nations Bulletin,* the United States had the largest number of smallpox cases (55,538) in the world during 1924 with the single exception of British India. In all of European and Asiatic Russia there were only 24,067 cases reported. Furthermore, the figures for the United States for last year show an increase of 85% over 1923, while Russia shows a decrease of more than 45%. We wonder if those people opposed to vaccination who believe that cleanliness is a sure protection against disease will now claim that the people of the United States are, on the whole, dirtier in their habits than the people of Russia and about on a par from a sanitary standpoint with the natives of British India.

Indian Children Immunized.—A diphtheria campaign was recently started at the St. Regis Indian Reservation. Consent slips for the administration of toxin-antitoxin have already been received from all but two families. This record will be hard to duplicate in any state.

Advice on Use of Rouge.—To get just the right tint on the cheeks, buy only the best rouge, hide it in a safe place about two miles from home, and walk out and back once a day to see if it is still there.—*Journal A. M. A.*

Fresh Air Treatment.—An excellent example of what can be done in the way of preventive work among children exposed to tuberculosis is contained in an article which appeared in the *New York Sun* recently. "An average gain of two and three-quarters pounds per child was made by the children sent to fresh-air farms for two or three weeks last summer by the New York Tuberculosis and Health Association. The 1,507 children selected, according to the Association's announcement, were taken from the tuberculosis clinics and from the open-air schools, because these children have been exposed to tuberculosis in their homes or were markedly underweight and undernourished. A preliminary examination was given to these children before they were sent to the country. This had the double purpose of weeding out acute infectious diseases and getting the record of the condition and weight of each child.

The Influenza Problem.—At the annual meeting of the American Public-Health Association held at St. Louis last month, Dr. Edwin O. Jordon, Professor of Bacteriology and Hygiene in the University of Chicago, presented a résumé of our present knowledge regarding the influenza problem. Some of the main points in his address were: The first estimates of the loss of life caused by the influenza pandemic of 1918 were too low. An estimate of 20,000,000 deaths in the whole population of the world is probably not wide of the mark. Judging by the past, nothing is more certain than that we shall some day have another visitation of this destructive infection. We are little, if at all, better equipped to deal with this disease than we were several years ago. It seems permissible to suppose that the virus of epidemic influenza is antigenically not identical with the virus or viruses, of inter-epidemic influenza. Although probable that some protection may exist for a short time following recovery, if the epidemic of 1920 was true influenza, then little or no immunity remained sixteen months after an attack. The disease is spread mainly, if not altogether, by human contact in the early stages of the malady. Mouth-spray and finger-to-mouth infection appear the most likely means of transmission.

Infant Death Rate.—The Children's Bureau of the U. S. Department of Labor reports in part as follows. "The provisional figures for 1924 of the vital-statistics division of the Bureau of Census indicate a substantial drop in the infant death rate both for urban and rural communities in the U. S. birth-registration area; but even with this improvement, the infant death rate in the U. S. is higher than in Australia, the Netherlands, Norway, Sweden, and the Irish Free State, and no state in the U. S. has so low a rate as New Zealand. It is evident, therefore, that the U. S. cannot afford to slacken its interest or reduce in any way the intelligent expenditure of funds to lower the death rate among babies."

THE HEART

The prevalence of heart disease, as evidenced by records discussed at medical meetings, and reports noted almost daily in the public press, presents a rather alarming situation. The heart, the most important organ of the body, too often has unnecessary cause for excessive

effort, inducing both functional and organic disturbances, the correction of which calls not so much for medication as for the advice and direction of a trained observer. In the effort to protect and correct, several methods of procedure are of value.

(1) We should learn how to prevent heart disease, and pass that knowledge on to others. The body is just a machine which at more or less frequent intervals develops a faulty mechanism. When trouble appears, it is always possible that the heart may be involved, and an examination by one trained and licensed to make such tests would be of inestimable value. This affords an opportunity to advise corrective treatment, and if this is not needed, to urge a mode of life that will prevent the development of heart affections.

(2) With the lesson thus learned, the profession could, as a unit, provide help for those with heart disease who cannot help themselves. Hospitalization is needed for patients with both acute and chronic diseases.

(3) Physicians acting as medical advisers to those suffering with infections too often responsible for heart disease, should report their laboratory and clinical findings with the relation of these findings to injured hearts. Children frequently suffer from a poorly acting and often permanently damaged heart for which the doctor is sometimes responsible because of a lack of proper observation and direction during convalescence from the contagious and infectious diseases—a condition so easily remedied that its development calls for censure. We are too prone to assume that at the end of a legal quarantine period the child is entirely well and ready to return to his ordinary duties. The physician should and must make a thorough heart examination of all children at the end of the quarantine period, directing such a mode of life as will conserve both the functions of the heart and the heart itself.

Let each one of us promise ourselves that no child will be discharged from our medical observation until such an examination is made. By so doing, the number of damaged hearts will be lessened.—John D. McLean, M.D., *Secretary, Pennsylvania Heart Association.*

PHYSICIAN KEEPING LIQUOR IN HIS OFFICE—"WHITE MULE"

(State v. Ryan (Mo.), 269 S. W. R. 627)

The Springfield (Mo.) Court of Appeals says that it appeared from the evidence that a sheriff who raided the defendant's office found therein about a gallon and a half of alcohol, a quart of red whiskey, and a jug which contained one-half pint of what was called "white mule." For the defendant it was shown that he was a regularly registered and practicing physician and had a permit from the county court to issue prescriptions for intoxicating liquor. The defendant testified, and introduced in evidence exhibits to show that he had purchased the liquor under the federal regulations relating to the purchase of liquor by physicians for use in the practice of their profession. He also testified that he bought the liquor for medical purposes. The case was tried on the theory that the fact that the defendant was a physician did not authorize him to keep intoxicating liquor in his office for use in his practice as a physician, the jury being instructed that if it believed from the evidence that he had such intoxicating liquor in his office used by him as a physician, and not in his private residence, it could not acquit him, even though it might find from the testimony that he had secured a permit from the federal government to purchase the liquor for use in prescribing it in his practice as a physician. That instruction was erroneous, in consequence of which a judgment of conviction of the unlawful possession of intoxicating liquor is reversed, the cause being remanded. The court does not think that the provision of the state prohibition act that a person who has lawfully obtained intoxicating liquor and is using it in a lawful way may keep it in his private residence applies to a physician engaged in the legitimate practice of his profession. If this defendant had the right to prescribe and administer intoxicating liquor either alone or as part of a compound as a medicine, then, of necessity, he must be permitted to possess the liquor to be used for that purpose at his office where he practiced his profession.

But a physician may not use his authority as a physician to cover up violations of the law. His good faith may be inquired into. There was evidence enough in this case to take to the jury the question of the good faith of the defendant and the purpose for which he had the intoxicating liquor in his possession in his office. The sheriff testified that part of the liquor found in the defendant's office was what he called "white mule." This "white mule" was whisky of such a low grade that no reputable physician would either prescribe or dispense it as a medicine. If the defendant had intoxicating liquor in his possession for any purpose other than for legitimate use in the legitimate practice of his profession, he should be convicted. If he kept it in his office in good faith for use in the legitimate practice of his profession, then his possession was lawful, and he should be acquitted.—*Journal A. M. A.,* October 10, 1925.

Fractures More Than Broken Bones.—"There is more to a fracture than a broken bone and loss of function," says the *Journal of the Michigan State Medical Society.* "Full and careful consideration should be given to possible additional injury to nerves, muscles, or blood vessels. They are frequently overlooked because no thought has been given to them until weeks later, when the immobilization apparatus has been removed and the presence of such involvement is perceived. Such lesions can be detected early if one but makes a detailed examination, and until consideration is given to these structures, many unnecessarily unsatisfactory end results will be encountered."

How Goggles Save Eyes.—In a Pittsburgh plant which requires the wearing of goggles by its employees, out of total of 18,000 accidents of all kinds in one year, only 11 were eye injuries. These were caused by flying chips, and not one was a lost-time accident. An examination of 30 pairs of broken goggles showed that 26 pairs had saved the wearers from total blindness and saved $65,000 in compensation. In another foundry, in six months 500 pairs of glasses were broken by flying chips, but not one eye was injured.—*Eyesight Conservation Bulletin 5.*

Only the Adventurous Need Apply.—In the early days of the Russian Soviet Government it was a crime to have an education. The Bolshevik gospel was to let the under dog have a chance and kill off the upper one. Brains, therefore, have largely disappeared from Russia—either voluntarily or otherwise. Now, that afflicted land finds that it cannot run a country without them, and is offering inducements to professional men and women. Any one interested may apply to Moscow!

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Bldg..
Pittsburgh, Pa.

THE 1925 AMERICAN MEDICAL ASSOCIATION SECRETARIES' CONFERENCE

The Medical Society of the State of Pennsylvania was represented at the 1925 Conference of State-Society Secretaries in Chicago by the Secretary and Editor Hammond. Drs. Edie and Petty of the Committee on Public Relations were in Chicago at the same time, in attendance upon the conference of workers interested in periodic health examinations. Your Secretary received more than the usual number of complimentary comments on the Society's JOURNAL, its program for the 1925 session, and other evidences of the Society's progress.

Aside from the discussion of questions peculiarly connected with the responsibilities of the State Society to its component county societies, considerable time was devoted to medical legislation and periodic health examinations. The prevailing opinion regarding the approved methods for State Medical Societies in attempting to influence public-health legislation seemed to be that of operating as much as possible with lay organizations that are more or less interested in health problems. The outstanding feature of the discussion of periodic health examinations seemed to be that medical societies should concentrate their efforts on equipping their members for properly conducting examinations.

We were interested in noting that leading state medical societies were represented at the Conference as follows: New York and New Jersey by the Secretary and the Editor; Michigan by Secretary-Editor and Executive Secretary, the latter a layman; Wisconsin by its President and lay Executive Secretary; Illinois by the Secretary, the Editor, the Chairman of the Legislative Committee, and a laywoman in charge of public-health education; West Virginia by its Secretary and lay Executive Secretary.

An interesting paper read before the Conference urged the advisability of component county medical societies seeking information regarding candidates for membership from the files of the American Medical Association, the records on file of all physicians in the country being now practically complete from each physician's earliest student days to the present time.

THE DECEMBER BOARD MEETING

The December meeting of the Board of Trustees was held at the permanent quarters of the Society, 230 State St., Harrisburg, the first Tuesday in December. All members were present. Reports were received from officers, councilors and chairmen of standing committees of the Board.

A special committee, of which Dr. Lawrence Litchfield is Chairman, to study and recommend possible advantageous changes in the grouping of component county societies into censorial and councilor districts, reported progress.

A fact-finding committee appointed in October to study the controversy existing between the medical licensing boards of New Jersey and Pennsylvania reported and was discharged.

A committee of the Board, appointed to assist in the preparation of a One-Board Bill to be introduced in the Legislature, reported that considerable progress had been made in settling upon the type of bill to be introduced.

Drs. Appel, Litchfield, and Donaldson were appointed a committee to report at the next meeting of the Board (February 2, 1926) on the establishment of a definite policy regarding the amount of assistance and responsibility to be assumed by the Society in the conduct of the

defense of members sued for alleged malpractice, when the member has placed his defense in the hands of a commercial insurance company.

Resolutions urging the Pennsylvania State Board of Medical Education and Licensure to reconsider and rescind its action requiring two years' practical experience from candidates for license in Pennsylvania who already hold the National Board of Medical Examiners' Certificate, were unanimously adopted, copy of resolutions to be sent to the president of the Board of Medical Education and Licensure and to the Governor of the Commonwealth.

The Chairman of the 1926 Committee on Scientific Work, the Chairman of the Local Committee on Arrangements for the 1926 Session, and the Secretary of the Medical Society of the State of Pennsylvania were appointed a committee to arrange for and conduct a scientific exhibit in connection with the 1926 session.

Resolutions adopted by the Chicago Medical Society regarding the issuance of the degree "Doctor of Public Health" to those not already having the degree of "Doctor of Medicine," were presented to the Board, and are printed in the January ATLANTIC MEDICAL JOURNAL for the information of members of the Society.

MEMBERSHIP

The membership of the State Society, December 18, 1923, was 7,332; December 18, 1924, 7,365; December 18, 1925, 7,500.

Dues for the year 1926 have been received to date, December 18th, from the following counties: Adams, Beaver, Bucks, Center, Erie, Huntingdon, Montgomery, Montour, Northampton, Perry, Somerset, Tioga, and Venango.

A HISTORY OF THE MASSACHUSETTS MEDICAL SOCIETY

Our Society has been honored by the receipt of a complimentary copy of "A History of the Massachusetts Medical Society," with brief biographies of the founders and chief officers, 1781-1922, written by Walter L. Burrage, A.M., M.D., Secretary of the Society. The book is a 500-page volume, with cloth binding, and is illustrated with views of some of the meeting places, reproductions of old documents, and portraits of important officers, and was privately printed in 1923. On one of the introductory pages appears the following quotation from Pittacus, of Mitylene: "Know the past, and you can read the future." On the opposite page, the book is "Dedicated to the future presidents of the Massachusetts Medical Society who may wish to build more wisely on the structures of the past."

The Massachusetts Medical Society lays claim to being the oldest state medical society in the United States with a continuous existence. It is now one hundred and forty-four years old, having been incorporated in 1781. Its membership has increased from 67 in 1803 to approximately 4,200 in 1925.

The biography of the first president of the Society, Edward Augustus Holyoke, who lived to be 101 years of age, includes a full-page silhouette, quaintly illustrating the costume of the dignified gentleman of the day. This practitioner was the first person to receive from Harvard College the honorary degree of M.D.

The History, written as it is in narrative form and accompanied by appropriate quotations and reproductions of old documents, presents in an interesting manner not only the early records of the Society and its members, past and present, but a description of the Society's publications and its library.

The History has been given a place in the library of the Committee on Archives in the office of the Society in Harrisburg, and, we feel sure, will not only be enjoyed by those who read its pages, but will be an inspiration to the historiographer who is yet to write the history of the Medical Society of the State of Pennsylvania.

"F. C. H. E. E. R."

The Oregon State Medical Society, in its endeavors to stimulate periodic health examinations and to assure proper medical service to those seeking such examinations, proposes the creation of a College of Health Examinations and Efficiency Research, with a faculty to be chosen from properly qualified members of the Society, to give a postgraduate course of instruction open to all members of the Society. When a member of the Society has completed one hundred examinations and has filed his case records with the College, his application for Fellowship will be considered. If the records are approved and the advice given by him satisfactory, the Faculty may then elect him a Fellow.

We are pleased to see this evidence of enthusiasm in this worthy cause. While we may not sympathize with the efforts to create another extralegal college in which doctors of medicine are eligible for Fellowship, we are keenly interested in any plan that will better equip practitioners of medicine for the splendid oppor-

tunity to practice sickness prevention that is afforded them in making periodic health examinations.

Bearing in mind that only from ten to twelve per cent of life-insurance policyholders take advantage of their opportunities for *free* periodic health examinations, we are constrained to express the opinion that at the present time those seeking periodic physical examinations will have little difficulty in finding a physician capable of making such examinations. The demand, however, for this type of service is growing rapidly, and while we may not reasonably expect a large percentage of healthy people to be examined annually, physicians should be prepared to make a proper examination and give proper advice when called upon to make periodic health examinations, whatever the interval between examinations may be.

For the benefit of those particular members who are interested, the Public Relations Committee of the Medical Society of the State of Pennsylvania, at its meeting, December 1st, authorized some slight changes to be made in the periodic-health-examination blank issued by our Society. The new blanks have been prepared in pads of one hundred each, and will be mailed to any member upon receipt by the Secretary or Editor of the State Society of one dollar. With the blank, will be mailed a copy of a Manual of Suggestions for the Conduct of Periodic Examinations of Apparently Healthy Persons, and a placard, for the physician's reception room, designed by the Public Relations Committee calling attention to the advantages of periodic health examinations.

Elsewhere in this issue will be found a coupon to be filled in and forwarded with $1.00.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to December 17:

ALLEGHENY: *New Members*—David H. Cooper, 347 E. 8th Ave., Homestead; Patterson Mendlowitz, 141 5th Ave., McKeesport; William T. Holland, 914 Pittsburgh St., Springdale; A. Allen Goldbloom, 5867 Darlington Rd.; Joseph J. Hecht, 600 Wylie Ave.; Diego B. Martinez, Magee Hospital, Pittsburgh. *Removal*—Grover A. Meikle, from Pittsburgh to Elkland (Tioga Co.).

BEAVER: *New Members*—Melvern M. Mackall, Beaver; Leonard S. Fullerton, Beaver Falls.

BERKS: *Resignation*—William B. Jameson, Hamburg.

BRADFORD: *Removal*—Grant H. Gustin, from Sylvania to Troy.

BUCKS: *New Members*—Raymond B. Wallace, Point Pleasant; Allen H. Moore, Doylestown.

CAMBRIA: *New Members*—Herman H. Hollingsworth, Armagh; George F. Wheeling, Windber; Clarence E. King, Elmora; Francis T. Carney, 418 Lincoln St., Fred H. Martz, 109 F. St., Leard R. Altemus, 571 Grove St., Johnstown. *Removals*—Harry F. Gockley, from South Fork to Ellis Bldg., Johnstown; Elmer E. Geissler, from Lilly to Youngstown, Ohio.

CENTER: *New Member*—Hugh Morrow, Center Hall.

DAUPHIN: *New Member*—E. C. Neely, Harrisburg.

DELAWARE: *Removal*—Walter A. Blair, from Upland to 318 E. Broad St., Chester.

ERIE: *Transfer*—Frank E. Bowser, Erie, from Armstrong County Society. *New Member*—R. W. Cooney, 110 W. 9th St., Erie.

FAYETTE: *Removal*—Edward H. Rebok, from Waltersburg to Keisterville. *Transfer*—Thomas B. Echard, from Connellsville to St. Petersburg, Florida State Medical Association.

LAWRENCE: *New Member*—Edwin D. Jackson, New Castle. *Removal*—Frank W. Corson, from New Castle to Tidioute, Warren Co.

LACKAWANNA: *Death*—William Van Doren, Archbald, September, aged 66, (N. Y. Univ. Med. Col. '85).

MIFFLIN: *Transfers*—Joseph S. Brown, Lewistown, from Juniata County Society; James G. Koshland, Lewistown, from Huntingdon County Society.

MONTGOMERY: *New Member*—Harold R. Warner, Kulpsville.

NORTHAMPTON: *New Member*—Irene F. Lamb, 64 N. 4th St., Easton. *Reinstated Member*—Milton E. Weaver, Perkasie.

PHILADELPHIA: *Deaths*—John J. Owen, Philadelphia, Nov. 7 (Jeff. Med. '78); Edward W. Watson Philadelphia, recently, aged 82 (Univ. of Penna. '65). *Removals*—Clarence D. Daniels, from Philadelphia to 639 West End Ave., New York City; Margaret Bynon, from Mahanoy City (Schuylkill Co.) to State Infirmary, Howard, R. I.

SCHUYLKILL: *Removal*—James M. Monaghan, from Minersville, to 9705 Atlantic Ave., Margate City, N. J.

TIOGA: *New Member*—D. Ritchie, Mansfield.

VENANGO: *New Member*—John R. Bangert, Oil City. *Reinstated Members*—Forest J. Bovard, Tionesta; Winnie K. Mount, Oil City; Henry B. Gaynor, Polk.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per capita assessment has been received since November 16th. Figures in first column indicate county society numbers: second column, State Society numbers.

Nov. 19	Philadelphia	1977-2040	7406-7469	(½ yr.)	$265 00
21	Allegheny	1270-1275	7470-7475	(6½ yr.)	15 00
28	Venango	50	7476		5 00
	Venango	49	7477		5 00
Dec. 7	Northampton	136	7478		5 00
15	Dauphin	157	7479	(½ yr.)	2 50
	Cambria	148-154	7480-7486		35 00
1926					
Nov. 20	Lawrence	1	1		5 00
24	Northampton	1	2		5 00
	Tioga	2	3		5 00
25	Center	1	4		5 00
28	Venango	1-3	5-7		15 00
Dec. 1	Adams	1-6	8-12		25 00
7	Montgomery	1-22	13-34		110 00
	Bucks	1-34	35-68		170 00
11	Perry	1-7	69-75		35 00
15	Erie	1-16	76-91		80 00
	Montour	1-5	92-96		25 00
	Huntingdon	1-11	97-107		55 00

COUNTY SOCIETY REPORTS

ALLEGHENY—NOVEMBER

The first lecture of the 1925-26 postgraduate series sponsored by the Allegheny County Medical Society was delivered November 5th, by Dr. Frederick M. Allen, of New York City, on "Pernicious Anemia." The following important points were stressed by the speaker:

The rôle of focal infection in the production of pernicious anemia, special importance being attributed to dental focal infection as a common causative factor, and its elimination being advised.

Absolute adherence to a salt-free diet, as strict as in hypertension or the cardiorenal syndrome.

The conception of pernicious anemia, like diabetes mellitus, as a disease of metabolism in the hemopoietic system, and the checking of any condition tending to cause a stimulation of this system.

The avoidance of stimulation of the red bone marrow or allied tissues. This point is absolutely essential, and is the keynote to treatment. Arsenic is contraindicated because of its stimulant action. Blood transfusion is advised only in emergencies where it may mean a question of life or death, or in especially selected cases. It should not be used as a routine treatment.

L. G. BEINHAUER, M.D., Reporter.

CLINTON—NOVEMBER

The November meeting of the Clinton County Medical Society, was held at the Fallon Hotel, Friday evening, November 27. It was in the form of a testimonial dinner to Dr. J. E. Tibbins of Beech Creek, in honor of his having completed over fifty years in the active practice of medicine.

Twenty-five doctors were present, including guests. Addresses were delivered by Dr. S. J. McGhee, of Lock Haven; Dr. Walter S. Brenholtz, of Williamsport, Councilor for this district; Dr. L. M. Halloway, of Salona, and Dr. Tibbins.

Of more than usual interest was the fact that Dr. Tibbins' preceptor, Dr. L. M. Halloway, also was present at the meeting, and still is engaged in active practice.

Following the dinner a short business meeting was held.

C. S. BAUMAN, M.D., Reporter.

DAUPHIN—DECEMBER

At the regular monthly meeting, on December 1st, Dr. S. S. Woody, Superintendent of the Philadelphia Hospital for Contagious Diseases, spoke on "The Handling of Contagious Diseases." The presentation of this subject was most timely, as it has been discussed frequently during the past year by members of the profession and the city authorities. Besides the members of the Society, the meeting was attended by several of the city councilmen, the Mayor, and a representation from Williamsport. An abstract of Dr. Woody's address follows:

The first recorded attempt for the municipal care of contagious disease in Pennsylvania was made in 1726, in Philadelphia, when a dwelling at Ninth and Spruce Streets was set aside for the treatment of smallpox during the epidemic at that time. For 122 years, succeeding 1743, eight different unsuccessful attempts were made to establish a contagious-disease hospital. Finally, in 1865, such a hospital was opened at Twenty-second and Lehigh Avenues, although very little was done for the care of the patient, and nothing at all for his protection against other contagious diseases. In 1909, the present hospital was opened, with the twofold function of protection of the patient and the public.

A contagious-disease hospital differs from a general hospital in being a distinctly specialized institution, requiring doctors who are specially trained in the diagnosis and treatment of contagious diseases. This is more important than in a general hospital, because a mistaken diagnosis is apt to be followed by more serious consequences to the community as well as the patient.

The public-health function of the hospital becomes operative the moment the ambulance reaches the home of the patient. The doctor or nurse in charge always carries a questionnaire for the purpose of eliciting all possible information regarding the diagnosis, how long the patient had been sick, and the conditions in the house and in the neighborhood, especially with regard to the presence of the same kind of contagious disease. These are important, because while the patient may be showing symptoms of one disease, he may have been exposed to and be harboring the germs of another, and to put such a case in the ward with others would result in an added infection in that ward. While in the hospital, the patient is under constant observation, with the idea that other contagious disease may develop. Nurses, interns, and medical officers are all taught the significance of certain symptoms. If, for example, a patient in the scarlet-fever or diphtheria ward should cough, sneeze, and show a slight rise in temperature, the nurse at once thinks of measles, and calls the doctor, who responds immediately.

It is often a most difficult matter to determine when a patient who has had a contagious disease really ceases to have the power of infecting others. This is particularly true of scarlet fever. The public health, therefore, claims consideration when the patient is cured and ready to be discharged.

Oftentimes the treatment of the patient begins the moment the ambulance reaches the home. This applies particularly in cases of diphtheria of the larynx, where there is danger of death by suffocation, and the ambulance doctor often saves the patient's life by introducing a tube into the windpipe while in the patient's house or even in the ambulance on the street. Immediately upon arrival at the hospital, the most experienced doctor sees the patient and gives orders for special treatment, such as toxin-antitoxin, and methods for its administration.

The modern contagious-disease hospital is open to visitors and to inspection, under certain simple restrictions, of course, the main one being that the visiting must be done under the supervision of a nurse or attendant, for the main and only reason of protecting the visitor, who cannot be expected to know the proper conduct in a hospital of this kind. Visiting is limited only by the number of attendants who can be spared for that purpose, telephone inquiries are answered at all times, and the family physician is encouraged to visit his patient.

The social-service department is an integral part of the public-health function of the hospital, as regards the follow-up and aftercare of the patients.

In case of death, the family and friends are no longer deprived of the last consolation. The modern hospital has at the disposal of the family, a simple, attractive little chapel where services can be held and where the last farewells can be taken without exposing any one to the risks of contagion, the body being surrounded by a thick plate-glass screen.

W. MINSTER KUNKEL, M.D., Reporter.

MIFFLIN—DECEMBER

At the regular monthly meeting, held at Lewistown, on the 3d, the following officers were elected for 1926: President, O. M. Weaver; first and second vice-presidents, J. S. Brown and H. C. Cassidy; secretary-treasurer-librarian, James A. C. Clarkson; reporter, F. A. Rupp; censor, W. S. Wilson. The new president appointed on the Committee on Public Policy and Legislation the following: F. A. Rupp, chairman; S. W. Swigart, C. J. Stambaugh, J. P. Getter, W. H. Kohler, and T. H. Smith.

Quarantine and Common Sense: F. A. Rupp.—No class of men, either professional or in business, is so much regulated and controlled by laws, both good and bad, as is the medical profession. The narcotic laws, the Eighteenth Amendment and the Volstead Enforcement Act, and the many and various health laws, to mention only the more prominent, if obeyed to the letter, would require most of the physician's attention to the exclusion of real medical work.

If the Harrison Act were thus observed, it would be necessary to keep a record every time a dozen coryza tablets were dispensed, of the number of tablets, the date, and the patient; likewise with the ordinary lead and opium tablet. How many physicians have this particular record up to date? While living up to the spirit of the law in not aiding and abetting drug addicts by supplying them with their drugs, few doctors abide by the letter of the law which requires a full record when opium in any form is dispensed.

Mention of the writing of prescriptions for alcoholic beverages, as permitted under the Volstead Enforcement Act, recalls the numerous and various occasions under which the prescribing physician will break that law. In fact, it is so frequently broken that a new axiom states that a physician who has a permit to prescribe alcoholics in any form will and does break the law.

The act requiring medical certificates from cooks, waitresses, etc., again is of questionable value, because of the nature of the examination required to make it of some worth, and the very small fee that can be charged for the certificate.

Useless laws are not only a burden to humanity, but, since they are not respected, they help to create a larger disrespect for all laws.

Considering, now, the subject of quarantine, the law requires that the scarlet-fever patient be absolutely isolated, that the individual caring for and nursing the patient shall have no contact with the other members of the household, and in case that is impossible, that the house placarded shall be under absolute quarantine. However, in the great majority of cases, the mother nurses the patient and cooks for the household, intermingling freely with those who leave the house. Indeed, the wage-earner, who is permitted to leave the house to attend to his daily work, under stress of circumstances will enter the sick room. If the law were strictly enforced, that house would be under absolute quarantine, and the supporter of the family would be confined to the house. Consequently, all income would be temporarily cut off, and in the great majority of cases the county would be compelled to assume the financial support of the household. Multiply that one instance by the many that are quarantined for scarlet fever, diphtheria, etc., and it is readily understood that the taxpayers would soon voice some objection. It is only by disregard of these infractions of the law that peace reigns.

Twenty or more years' observation of the workings of the quarantine laws, as to the success both of controlling epidemics and lowering mortality leads to the conclusion that the less quarantine, the stricter compliance will there be with the quarantine laws that are deemed absolutely necessary. There should be some regulation of scarlet-fever and diphtheria cases, but I believe that should be the extent, and that the next Legislature could better serve the whole people of Pennsylvania by striking from the list of quarantinable diseases measles, chickenpox, mumps, German measles, and whooping cough—to mention only the more common.

An inquiry addressed to the New York City health commissioner elicited the facts that the only diseases placarded in that city are scarlet fever, diphtheria, and poliomyelitis, that the health authorities no longer disinfect after infectious diseases, with the exception of smallpox and typhus fever, and that no ill results have been observed.

In Pennsylvania, a law was enacted in 1923 providing for the making and altering of quarantine regulations, and the most notable changes made had reference to the five diseases above mentioned, placarding and notification still being required, but restraint being placed upon only the patient and susceptibles. This modification is a step upward and will do much to prevent the former demoralization of the school system, but the removal of these same diseases from the quarantine list will be to the advantage of all concerned, lessening mortality among those who fail to consult a physician in infectious cases because of fear of quarantine, and increasing a willing coöperation between the family, the physician, and the health officer.

F. A. RUPP, M.D., Reporter.

PHILADELPHIA
November 4, 1925

The president, A. C. Morgan, M.D., in the chair.

A public meeting, the culmination of a year's work in cancer control.

Frederick L. Hoffman, M.D., Newark, N. J. (by invitation): Some Cancer Problems of Today.—This paper was based upon research which covered every phase of the subject that could be judged on the basis of numbers. It did not include clinical research. The first lesson of this investigation for the world is that cancer is on the increase, and the term "menace of cancer" is a standard one. Ten years ago, there were in this country 75,000 deaths from cancer per year; now there are more than 110,000. All this, too, in the face of the real success now being achieved by early operation, radium, etc., in keeping down the mortality. The average death age is fifty-nine. Cancer and civilization go hand in hand, the disease being most frequent where there is congestion, abnormal strain, and abnormal habits of life. Civilization brings with it leisure, idleness, luxury, which, in the last analysis, spell hypernutrition. Dietary errors are largely at the root of the problem. Some say no progress can be made until the cause of cancer is known. Enough is now known to advance on a sound basis. Among native tribes who lead the natural, simple life, free from the irritating effects of modern civilization, with simple dietary and living habits, cancer is never found. Tuberculosis has been reduced 50% and typhoid 60% in twenty years. These diseases have a single cause. Cancer has none such, but there is a multiplicity of highly complex causes, each to be known and understood.

There are sixty or seventy different forms of cancer, and a breaking up of the death rate into the component parts is most difficult. Age, sex, race, occupation, living

conditions, diet, etc., affect different types differently. Geographically, in the United States, cancer is most common on the Pacific coast (160-200 deaths per 100,000).

Of all cases coming for treatment, two thirds to three fourths are inoperable or hopeless. Ignorance of the real nature of cancer, apathy on the part of physicians, fear on the part of the patient that leads him to wait an average of eighteen months before consulting a physician—all these account for this. Half the cases die in the hospital, and about half of these are operated on to no avail. One third of all who die could be saved ten to fifteen years of life if they had early proper surgical treatment. No truth can be more beneficial to mankind than that the earliest operative treatment is the only known method to produce good results. Superficial examination is valueless; it must be thorough. A lump in the breast, an irregular condition of normal habits, a white patch on the tongue, an irritated mole, must early be judged by a competent person. Money had better be spent early than late.

Preposterous claims have lately been made in England, but the discovery has no practical significance. It is scientifically of interest. Hundreds of parasites have previously been discovered, but the consensus of the combined medical and surgical views of the world holds this latest discovery of no value. Cancer is always *local* in origin, and removal at that time would stop advance. Quick action is necessary: every hour of delay counts. There is no evidence that cancer is contagious or infectious, no evidence of inheritance, hence no ground for a parasitic theory of cause. Similar habits may make several members of the same family prone to it.

Cancer is a disease of the well-to-do, and may strike the robust who scoff at the possibility until too late. Simplicity of living, the nondevelopment of injurious habits, are safeguards. Smoking of pipes and cigars is dangerous; food too hot or too cold should be avoided. Cancer is always a *disease of irritation.* What we eat, that we are: and intestinal constipation, with the habitual use of laxatives, is a most common forerunner, and may be a contributary cause. Food analysis and stool examination should be a routine annual procedure after forty years of age. Certain occupations predispose to certain types of cancer: e.g., chimney sweeps, to cancer of the groin.

Cancer is generally not painful at the onset, and pain appears only when there is pressure on the nerves. This is the evidence of the last stage of the hopeful phase. Surgery, aided by radium and x-ray, is the best treatment known, and competent workers are essential.

Joseph C. Bloodgood, M.D., Baltimore, Md. (by invitation): How Can the Medical Profession Teach the Public and Influence Them to Act in Time So That in Many Instances Cancer Can Be Prevented and Properly Treated in Its Earliest and Most Favorable State?.—Dr. Bloodgood began his address by saying, in reply to Dr. Hoffman's dark picture, that if every one in the audience would observe early warnings, very few would die of cancer, that influenza, pneumonia, and automobile accidents are much more to be feared. Civilization with cancer is preferable to the "simple life" as he found it in Egypt. Just as in acute appendicitis and diphtheria the treatment must be immediate, so the delay of a few hours may make the difference in cancer.

Country people are easier to educate than those in the city. In Maryland, due to education, the cancer problem has changed remarkably in the past twenty years. From 1900 to 1910, of all cases of breasts examined, all had lumps, more than 99% required operation, the lump was of months' or years' duration, 80% were cancerous, 50% hopeless, and in less than 2% was there no axillary involvement. Today, 60% of the patients are coming because they *think* they have lumps, and by their very fear are protected. 50% are cancerous, less than 5% hopeless, and in more than 50% of those operated upon, there is no axillary involvement. Any case showing a lump, pain, or a weeping discharge from the nipple should be examined at once. Women should be protected by repair after childbirth. Cancer of the skin is a disease of ignorance. Constipation and indigestion are so common as to make them doubtful causative factors, although in every case of prolonged indigestion, the nature should be sought and the x-ray employed in diagnosis. The proctoscope should always be used in cases of bloody diarrhea.

Discussion was opened by Dr. Anspach, who said that cancer of the cervix is rarely found in nulliparous women, while cancer of the body of the uterus occurs equally in those who have borne children and those who have not. In the nulliparous, however, fibroid tumor is more common. Cancer of the uterus is very easy to diagnose on examination, but the outlook in these is not so favorable as the breast cases, since many are too far gone. The doctor cannot here be held at fault, since diagnosis is so simple; it is the women who are afraid to go to learn the truth. The early symptoms of intermenstrual bleeding, watery discharge, etc., may be absent, and no symptoms may arise from cancer of the ovary or tube. Prevention lies in the systematic pelvic examination of all women approaching the menopause. All lacerations should be repaired before the cancer age is reached.

W. Wayne Babcock, M.D., cited the change in the conception of cancer, so marked now that even unnecessary operations are being done on breast cases. Careful study of every possibly malignant case is essential. Early recognition and accurate and proper treatment is the vital thing.

MARY A. HIPPLE, M.D., REPORTER.

November 25, 1925

The president, Dr. A. C. Morgan, in the chair.

TREATMENT OF NERVOUS AND MENTAL DISEASES

Dr. J. H. Lloyd: The Treatment of Organic Nervous Diseases.—Because of the chronicity of nervous diseases, the common view is that the therapeutics of these disorders is not a fruitful field. Discovery of the physiologic action of drugs led to a superficial treatment of symptoms, which threw no light on the cause of the trouble. Scientific therapy has been brought about of late by bacteriology and surgery. Causes, not symptoms, are now attacked. For example, in cases of trifacial neuralgia, instead of opium we now recognize two methods of treatment—both surgical: either avulsion of the sensory root, or alcoholic injection into the sensory branches or into the gasserian ganglion itself. This latter is not permanent, and the radical operation is eventually necessary.

Sciatica presents a surgical problem, also, as drugs furnish no cure. Slitting of the nerve sheath brings good results. Alcoholic injections should be as beneficial here as in trigeminal involvement. Injections of salt solution and epinephrin into the upper part of the spine shorten the duration. Sympathectomy—excision of the sympathetic nerves which accompany arteries—is of value in trophic ulcers, anginas, etc. Hemorrhage into the brain—apoplexy—is the commonest of nerve affections, and whether or not the blood pressure may be an indication of its onset remains doubtful. Tre-

phinement is beneficial in hemorrhagia neonatorum and in some traumatic hemorrhages in the adult.

Chorea, long considered a functional disorder, is now known to be caused by an infection associated with rheumatism, endocarditis, and streptococcic sore throat. Careful scrutiny for a focus of infection is essential. Epilepsy is a disease for which no cure has been found. Luminol is variously considered, but it is not a cure—trephinement over the motor areas is ineffectual. Migraine has been said by Timme to be an infection of the pituitary, causing headache, nausea, and disturbed vision, and hence he has advised glandular feeding. Others believe in nitroglycerin for this disorder, x-ray and radium are approved by Frazier and Grant, and some treat it as an anaphylactic phenomenon. Decompression in cases of brain tumor not otherwise operable may save the sight and relieve headache. Fröhlich's syndrome may possibly be helped by pituitary administration, and puncture of the corpus callosum has been advised. As to endocrinology, however, facts have not kept pace with hypothesis.

Pernicious anemia has long been associated with changes in the spinal cord, but the nature of the association is not understood, and there may be a common cause for both groups of changes. Hirst believes it is due to intestinal intoxication, set up by a lack of free hydrochloric acid during digestion because of oral sepsis. In the treatment of the meningitides, serology is most important, Flexner's serum in cerebrospinal meningitis being the most striking. For pneumococcic meningitis a reliable serum is yet to be found. Each type requires its own serum. During the delirium of pneumonia, lumbar puncture brings favorable results, but it is dangerous. Lumbar-puncture drainage in tuberculous meningitis is helpful. There is no serum for streptococcic meningitis with abscess, nor is there a serum for lethargic encephalitis, although good results have been obtained from intraspinal injection of the patient's own serum. The progress of poliomyelitis is arrested by the injection of convalescent's serum.

As to syphilis, salvarsan is not a cure, but may confer benefit in tabes and paresis. Reports on cures are not reliable. Early neurosyphilis is on the increase since the use of salvarsan. The infection of the nervous system seems to be hastened by the drug. Leviditi, in reporting on the use of bismuth in paresis, claims good results in cerebrospinal syphilis but not in paresis and tabes. Bismuth has less tendency to interfere with the secondary stage, and in its action, lies between mercury and salvarsan. Paresis has long been known to improve when the patient developed a carbuncle. Infection of paretics by typhoid, tuberculosis, or the acute-infectious microörganisms has been noted. Of late malaria plasmodia have been tried, because of their easy control by quinin. Forty per cent of cures are claimed. The physical symptoms are unimproved, but clinically the patients are better, and the remissions are longer than under the other treatments. The cause of multiple sclerosis is still *sub judice*. Possibly it is syphilitic.

Dr. Charles H. Frazier: The Results of Surgical Therapy in Certain Organic Lesions of the Nervous System.—The paper deals only with lesion of the pituitary, on which the first operation was done in 1912. In considering the treatment of pituitary disorders, four clinical varieties must be taken up: (1) an adolescent disease, a pituitary dysfunction, without sellar enlargement (40 cases in series); (2) suprasellar lesions (20 cases); (3) lesions of Rathke's pouch, occurring in children, and congenital in origin (15 cases); (4) primary intrasellar lesions (102 cases).

The first group is clinically represented by an excess of fat occurring at adolescence. A fibroma of the optic nerve over the pituitary body by pressure may give symptoms resembling acromegaly—an instance of a suprasellar lesion. Of all pituitary lesions, 80% are adenomata, and as in the thyroid, cystic degeneration is common. Bitemporal hemianopsia occurs in over 30% of pituitary cases, though the fields vary because of varying pressure of the tumor or of the circle of Willis. Papilledema may be a symptom of pituitary disease, if pressure on the third ventricle brings about a distention in the lateral ventricles.

The treatment of primary intrasellar lesions may take three forms: (1) organotherapy, with which the author is unfamiliar; (2) radiation, which gives positive results in 3%, and during which there must be constant conference with roentgenologist and ophthalmologist to note progress (visual fields to be taken at least once a month); (3) surgical treatment. The best approach is the transnasal route, although the transfrontal method may be used. The septum is resected, entrance to the sella made through the sphenoid, and the tumor contents evacuated. The mortality runs about 3%.

What are the results of surgical intervention? The problems are pressure on the optic nerve and headache, and functional disturbances, such as somnolence, asthenia, enlargement of hands and feet, excess fat, and dysmenorrhea. Surgical intervention can bring results only in proportion to the progress of the disease at the time of operation. If taken early, vision may be markedly improved, headache disappear, and the functional disturbances may be gradually decreased, dysmenorrhea being most resistive.

Dr. Charles W. Burr: The Treatment of Mental Diseases.—That psychiatry is the most backward of all the departments of medicine is but an honest confession of a known fact. This is naturally so, because the problem of caring for and curing the mentally diseased will never be solved until we know how one thinks normally—what is the real association between the brain and thought itself. Empiric methods are therefore necessary. Paresis is a real physical disorder, and while salvarsan improves the condition, prolongs life, and may give comfort, it is not a cure, nor is anything else. Recently, much has been said on the treatment of paresis by producing in the patient malarial fever. Long ago, at the Philadelphia Hospital, when the adjacent swamplands produced much malaria in the vicinity, it was often observed that paretics improved during the attack, but that afterward all the symptoms returned and the condition was unimproved. Dr. George Wilson, of Philadelphia, who has been trying this treatment with the malarial organism, reports dubious results.

Removal of the insane from home is of prime importance, and this often requires a hard battle, since the desire of the family invariably is to keep the patient with them. Home is the worst place in the world for the insane, since delusions are always formed about those nearest, and are fed by contact. Total abolition of the moral sexual sense is an early indication of both an acute and chronic psychosis, and the frequent compulsion by the patient to perform the marital act is harmful to both parties. The acutely insane are excited and noisy, necessitating at home the use of sedatives, which in these cases should be withheld except for extreme sleeplessness or excessive exertion. Much can be done for the care, but little for the recovery of the insane. No drug is of any help in in-

sanity. Warm sedative baths, bed, diet, and regulation of exercise during convalescence are simple remedies.

Far more important than the treatment of the individual, is the prevention of insanity. How can this series of diseases be made less frequent than it is today? By the mental-hygiene movement, started some years ago, much can be accomplished. Decrease in syphilis will lessen mental disease; prohibition successfully carried out, with no substitution of drugs, will reduce the percentage of insanity; reduction of scarlet fever, with its resultant meningitis and imbecile children, and to a lesser degree, reduction of the other acute infections of childhood, will show its effects in the state hospitals. Through the Child Guidance Clinic (better called parents' guidance clinic) children can be brought up not as emotional brats but with a sense of responsibility and self-control. If the "rights" of children are talked of less and the "duties" more, the percentage of degeneracy of all forms will not be so distressingly large. Fathers and mothers must be induced to show more sanity than they do. The newest thing is that all disease is due to disorder of the endocrins, that personality is dependent on them, and that children should be fed that gland which they need. Barring thyroid, the writer has never seen a gland influence the mental state or mental future of an individual.

Dr. Theodore H. Weisenburg: The Treatment of Psychoneuroses.—Treatment of the psychoneuroses is a personal problem depending on the development and experience of the individual. Psycho-analysis is of doubtful value. The use of mass psychology and of the atmosphere of cure is well worth while. Hospitalization of these cases is best, since observations may there be made from physical and mental angles to find the basis of the trouble. There, foci of infection may be removed and organic ailments treated. A rest cure of six weeks or more has a sound basis physiologically, and during this time the patient invariably is psychoanalyzed, and more rationally. The social sense is lacking in modern psycho-analysis.

Physiotherapy, hydrotherapy, massage, electricity, etc., are necessary also. More than thirty years ago S. Weir Mitchell insisted that sensitive spots should be rubbed out by massage. The American Medical Association has at last realized the importance of this subject, and its Council on Physiotherapy had its first meeting in October. Realizing that physical methods have a definite field in diagnosis and treatment, the A. M. A. formed this committee to investigate physiotherapy some forty years after Mitchell started the same thing in the Philadelphia Orthopedic Hospital.

Discussion was opened by Dr. Edward A. Strecker, who declared the fallacy of the statement that "dermatology and organic neurology are two perfect specialties because the patient never gets well and never dies." The two extremes of organic neurology constitute two points where treatment is most urgent. Acute conditions, such as anterior poliomyelitis, require the exact treatment so vital for the individual's future. It is the stopping of interest in the chronic neurological conditions (tabes, neuritic dystrophies, etc.) which accounts for the remarkable success of charlatans and chiropractors, who win out by their tricky semblance of attention to the patient who has a chronic incurable organic disease. Acute and chronic diseases are too much stressed: the largest care of the general practitioner is among those who cannot be organically restored. Legitimate suggestion is necessary.

Dr. Strecker would stress three points developed from the weakness of psychiatry: (1) treatment of the whole patient, not the sum of his sick organs; (2) use of methods of elimination and avoidance of narcotics in treating toxic conditions with acute mental symptoms; (3) prevention—by attention to behavior problems and avoidance of syphilis. The greatest master in the treatment of psychoneuroses was S. Weir Mitchell, but in his treatment a great factor was his personality—a fact which cannot be overlooked. First impressions are very important, and after a complete history, letting the patient talk as he will, there should be a complete physical examination, made efficiently and without delay. Then a definite stand should be taken, with minute attention to the detail of instructions. It is the combination of the physical, psychogenic, and environmental causes which brings about the psychoneuroses. The personality of the physician must be convincing.

Dr. J. M. Anders stressed the importance of the relation of diseased tonsils to chorea, with its associated arthritis and endocarditis, and mentioned again the importance of physiotherapy in the treatment of nervous diseases.

Dr. Burr, in closing, to whom Osler and Mitchell were "intellectual fathers," said that the secret of Mitchell's success lay in two things: first, he knew hysteria, which is to know all nervous diseases; second, he had a personality which, in 99% of his patients, inspired respect. He paid great attention to detail and knew how to do what he ordered done. His patients were human beings, not machines, and to each he gave his knowledge, care, and personality.

Mary A. Hipple, M.D., Reporter.

SOMERSET—NOVEMBER

The November meeting of the Somerset County Medical Society was strictly a business meeting. Reports of officers and committees were made, dealing with all the transactions for the year 1925.

The following officers were elected for 1926: President, Dr. Charles I. Shaffer, Ralphton; vice-president, Dr. George G. Grazier, Hollsopple; treasurer, Dr. C. W. Frantz, Confluence; secretary, H. C. McKinley, Meyersdale.

A Woman's Auxiliary to the Society has not yet been organized, but it is well under way.

H. C. McKinley, M.D., Reporter.

WARREN—NOVEMBER

A special meeting of the Society, called for November 7th, was addressed by Dr. Geo. E. deSchweinitz, of Philadelphia, who spoke mainly on the necessity of educating the public, in order that it would understand what it owes to the medical profession. He felt that there were as many big men in the profession today as there ever were, but because of the close interrelation between the departments of a university, the department receives the credit that was formerly bestowed on some individual.

The medical profession has a right to expect loyalty from the public because it gives probably more than any other group of individuals. The people of the smaller communities should be loyal to their own physicians, and medical education should develop the general practitioner and encourage general practice rather than specialism. Specialism should come only after there has been practical experience in general medicine.

November 18th, the service clubs (Rotary, Kiwanis, and Lions) coöperating with the County Medical Society and the hospitals, assembled about 150 afflicted persons (children and adults) in the Presbyterian

Church for examination. The main purpose of the clinic was to discover crippled individuals amenable to improvement, but as the term "crippled" was broadly interpreted, no one who applied was refused. Drs. Paul B. Steele and Carl C. Yount, of Pittsburgh, and Dr. Arthur G. Davis, of Erie, were present to pass upon the orthopedic cases, and the local men looked after the other defectives. The "clinic" was very generously arranged and every convenience was placed at the disposal of the patients. Nurses from the State Hospital, the General Hospital, and the Nurses' Association were in attendance; welfare organizations furnished meals free to patients, attendants and friends; and members of the service clubs transported the patients from their homes in the country to the clinic. X-rays were taken when needed, and every effort was made to locate and bring every cripple in the county to the clinic. Of the 150 examined, a number were found that could be improved. The histories taken will be studied, and the patients with possibilities will be further examined. Those without means will be assisted, and those able to pay will be advised as to further care.

The visiting doctors addressed a meeting of the County Society. This meeting was attended by twenty-four of the members, one of the largest audiences on record. Dr. Steele discussed infectious diseases of the joints. Dr. Yount gave a synopsis of a work prepared for the U. S. Army on the best location for amputations of the lower extremity. He said that Pirogoff's amputation has been discarded as bad, the lower third of the leg as a poor place, the ideal site being between the middle and lower third. Stumps shorter than two inches below the knee joint are not advisable, and never should be through the knee joint.

Dr. Davis, of Erie, spoke of the value of sunlight and other light treatment in tuberculous cases in place of, or as an adjunct to operation. Hospitalization for aftercare of crippled children is as important as operative procedure, especially in the tuberculous and rachitic cases.

The service clubs and other lay organizations are devoting a great deal of attention to the crippled child, and in much of this effort there is a tendency to overlook the fact that the medical profession has for years been engaged in restoring the cripple, and without making any great boast of it, doing it every day as part of the routine. The majority of the patients presenting themselves at this clinic, and no doubt at similar clinics held elsewhere, have had surgical care to the limit.

The medical profession is giving its best efforts to prevent poliomyelitis, for instance, which is responsible for so many of the wasted and hopelessly paralyzed limbs, and too often this effort is rewarded by recourse to any quack who holds out a false promise. The medical profession should come forward and show these service clubs that miracles are happening every day in medical practice, and more miracles will happen if they give their support to scientific medicine.

M. V. BALL, M.D., Reporter.

HEALTH AND THE THEATRE

As a matter of public health, we question whether many of the plays now extant dealing with psychopathological subjects are of any value whatsoever. The psychologist says: "What do I want to see that kind of stuff for? I see it in real life every day." The layman is apt to go to see it purely to satisfy his morbid curiosity, and would be better off without knowledge of the horrible example depicted.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK, *Editor*
Rydal, Pa.

COUNTY AUXILIARY REPORTS

ALLEGHENY

The regular meeting was held in the Pittsburgh Academy of Medicine in Craig Street, on November 24th, at 2:30 p. m., with approximately 75 members present.

Mrs. H. W. Morrow made a very entertaining report of the State Society meeting held at Harrisburg, to which she was a delegate. It was gratifying to learn that our president, Mrs. James I. Johnston, was elected president of the State Auxiliary, and also that the Allegheny County Auxiliary has the largest membership, there being now some 242 members enrolled.

Dr. Samuel Haythorn gave a most interesting and instructive talk on "Preventive Medicine."

Music was furnished by Mrs. Elsie Breese Mitchell, a member of the Auxiliary, who sang in a charming and artistic manner. A delightful social hour followed the meeting.

MRS. J. D. IAMS, Chairman Press Committee.

BUTLER

A meeting was held in the Sterling Club rooms at 6 o'clock, December 7, 1925, the members of the County Medical Society acting as hosts at dinner. At the subsequent meeting, the lack of work and a definite program was discussed, and because of this, it was decided to hold the Auxiliary meetings only every three months. Suggestions from other groups in regard to work they are doing would be genuinely appreciated.

The president, Mrs. R. B. Green, appointed a committee to confer with the Medical Society and the Hospital Board, offering the help of the Auxiliary in any of their activities. One of the results of the latter consultation was the sponsoring of the nurses' commencement. The women of the Auxiliary furnished cakes for the refreshments, and decorated the reception rooms. The program consisted of a commencement address, a reception, and a dance. The nurses and their guests spent a pleasant evening, and the Auxiliary members thoroughly enjoyed the whole program, and were glad of an opportunity to have a part in it.

PHILADELPHIA

At the meeting held November 12, 1925, at the Woman's City Club, Mrs. L. Webster Fox presided.

Dr. Daniel M. Hoyt gave an interesting and instructive talk on "Vaccination and Vivisection," and Mrs. Howard A. Sutton rendered several delightful vocal selections.

The corresponding secretary, Mrs. John M. Fisher, gave a report of the proceedings of the State Auxiliary meeting, held at Harrisburg, in October last.

Following the business meeting, tea was served, Mrs. Wilmer Krusen pouring.

The next meeting will be held the last Wednesday of January, 1926, when it is hoped that the Auxiliary will meet in the new home of the Philadelphia County Medical Society.

E. S. KNOWLES, (MRS. G. A. KNOWLES) Reporter.

PENNSYLVANIA NEWS ITEMS

DEATHS

MRS. JOHNSTON, wife of Dr. J. B. Johnston, Ligonier; recently.

CLARA COURTRIGHT MATLACK, wife of Dr. Granville T. Matlack, of Wilkes-Barre; December 5.

ANNA LOUISE BACON, M.D., Philadelphia; Woman's Medical College of Pennsylvania, 1894; November 6.

JOHN R. PERRY, JR., M.D., Philadelphia; University of Pennsylvania School of Medicine, 1911; aged 36; November 16.

ALFRED Y. GERHARD, M.D., Philadelphia; University of Pennsylvania School of Medicine, 1876; aged 74; December 6.

CHRISTIAN E. JAUSS, M.D., Harrisburg; Jefferson Medical College of Philadelphia, 1882; aged 66; early in December.

E. HARRIS SCATCHARD, M.D., Sewickley; Hahnemann Medical College and Hospital of Philadelphia, 1901; aged 49; December 1.

CLARENCE R. SMITH, M.D., Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1900; aged 47; November 3.

HENRY G. GODFREY, M.D., Philadelphia; Jefferson Medical College of Philadelphia, 1900; aged 50; October 27, of heart disease.

GEORGE F. MEESER, M.D., Avalon, N. J. (formerly of Philadelphia); University of Pennsylvania School of Medicine, 1873; recently.

WALLACE H. MCLARTY, M.D., Pittsburgh; University of Pennsylvania School of Medicine, Philadelphia, 1923; aged 27; recently.

H. A. WOODSIDE, M.D., Ridley Park, Pa.; Jefferson Medical College of Philadelphia, 1897; aged 54; December 17, at the Taylor Hospital, Ridley Park.

CHRISTIAN LENKER, M.D., Schuylkill Haven; University of Pennsylvania School of Medicine, Philadelphia, 1877; Civil War veteran; aged 82; November 21.

JESSE D. MOORE, M.D., New Castle; Medical Department of the University of the City of New York, 1885; aged 66; November 14, of cerebral hemorrhage.

GEORGE M. ROMIG, M.D., Allentown; University of Pennsylvania School of Medicine, Philadelphia, 1868; aged 79; December 6, due to falling from a window while asleep.

HENRY R. WHARTON, M.D., Philadelphia; University of Pennsylvania School of Medicine, 1876; former surgeon at the Children's and Bryn Mawr Hospitals; former chief surgeon of the Presbyterian Hospital; author of medical works; aged 72; December 3.

BIRTHS

TO DR. AND MRS. LEWIS H. BUCKMAN, of Wilkes-Barre, a son.

TO DR. AND MRS. PAUL H. WALTER, of Bethlehem, a son, September 21.

TO DR. AND MRS. MATHEW H. SHERMAN, of Harrisburg, a son, December 24.

TO DR. AND MRS. CHAPIN CARPENTER, of Wayne, a daughter, November 27.

TO DR. AND MRS. JOSEPH EVANS SANDS, of Bryn Mawr, a son, November 20.

TO DR AND MRS. FRANCIS PHILIP DWYER, of Renovo, a son, Francis Philip, Jr., November 6.

MARRIAGES

DR. WILLIAM J. DOYLE and Miss Alice Smith, both of Wilkes-Barre, November 25.

DR. WILLIAM G. FALCONER, of Clearfield, and Miss Mary Waterworth, in Syracuse, N. Y., recently.

DR. CLEMENT BIDDLE, Commander, U. S. N. (retired), and Mrs. Rutherford Pearson, of Philadelphia, December 9.

DR. ANDREW KENNEDY, of Philadelphia, and Miss Harriet O'Neill, of Statesville, N. C., in Philadelphia, November 10.

ITEMS

DR. EDWARD A. SCHUMANN, of Philadelphia, has recovered from a recent operation at the Frankford Hospital.

DR. AND MRS. JUSTUS SINEXON, of Philadelphia, have announced the engagement of their daughter, Olga, to Mr. James Fry.

DR. WILLIAM P. DAILEY is recovering from an operation and has returned from the hospital to his home in Steelton.

DR. GEORGE H. HAAS, of Allentown, was recently appointed a member of the Board of Trustees of the Allentown State Hospital by Governor Pinchot.

DR. WM. A. HITSCHLER has resigned from the Chair of Rhino-Laryngology, in the School of Medicine of Temple University, Philadelphia.

MR. AND MRS. ULYSSES GRANT POWELL, of Chester, have announced the engagement of their daughter, Alice Wisel, and Dr. George Bonnell Faries, of Philadelphia.

DR. AND MRS. MERLE S. BOYER, of Penfield, have announced the engagement of their daughter, Kathryn May, and Mr. Edwin Smiley, son of Dr. Anne E. Smiley, of Philadelphia.

THE MARRIAGE OF MISS JANE SEDGWICK WILLIAMS, daughter of Dr. and Mrs. Carl Williams, of Germantown, and Mr. H. LeBar Williams, Jr., also of Germantown, will take place in April.

MR. AND MRS. JACOB NEEF, of Philadelphia, have announced the engagement of their daughter, Laura Bertha, and the Rev. Herbert Northrop Morford, son of Dr. and Mrs. William B. Morford, also of Philadelphia.

THE TWENTIETH ANNUAL BANQUET of the Shenandoah Medical Society was held in Shenandoah on the evening of November 11, Dr. Christian Gruhler being the guest of honor. Dr. John Pierce Roberts was the toastmaster.

DR. R. J. BEHAN, Surgeon to the Pittsburgh Skin and Cancer Foundation, read a paper before the Buffalo Academy of Medicine, November 25, entitled "Correlation of Experimental Research With Treatment in Cancer."

PHYSICIANS who contemplate moving their offices are required by law to furnish the Narcotic Division of the Internal Revenue Office with their new address. Failure to do so subjects the offender to a severe penalty.

THE ANNUAL PENNSYLVANIA CONFERENCE ON TUBERCULOSIS will be held in Philadelphia on Tuesday and Wednesday, January 19th and 20th, at the Bellevue-Stratford Hotel. All interested persons are welcome to attend.

THE THIRD WEIR MITCHELL ORATION of the College of Physicians of Philadelphia, was delivered December 16, by Dr. Simon Flexner, Director of the Rockefeller Institute, on "The Advancement of Epidemiology Through Experiment."

THE MERCY HOSPITAL, of Wilkes-Barre, is making preparations for building an addition to their hospital, which will increase its capacity to 200 beds. There will also be built a home for the nurses, which with furnishings will cost about $450,000.

THE PHILADELPHIA CLINICAL ASSOCIATION elected the following officers for 1926: president, Dr. J. F. Donnelly; vice-president, Dr. Ernest Maier; second vice-president, Dr. S. P. Gerhard; treasurer, Dr. W. H. Thomas; and secretary, Dr. Louis R. Wiley.

THE ANNUAL BANQUET of the Medical Alumni Department of the Medico-Chirurgical College was held on November 19, at the Hotel Rittenhouse, Philadelphia, with two hundred and thirty members present. Dr. John D. Matz, of Allentown, was elected president for 1926.

BY THE WILL OF FRANK H. ELLIS, noted horseman, who died on April 12, 1925, in Orlando, Florida, the Pennsylvania Hospital and the Kensington Hospital for Women, Philadelphia, are each to receive $100,000. The personal property left by Mr. Ellis has been appraised at $4,249,670.

ONE HUNDRED DOCTORS attended the annual banquet of the Erie County Medical Society held in the Hotel Lawrence, Erie, December 1. The speaker of the evening was Dr. Herbert E. Smith, Professor of Surgery of the University of Buffalo, who gave an instructive address on facial neuralgia.

DR. J. THOMPSON SCHELL, of Philadelphia, was the guest of honor of Harmony Assembly, Artisan's Order of Mutual Protection, which met at Rittenhouse Hall, Philadelphia, Tuesday evening, November 24. Dr. Schell is surgeon-in-chief of the Northwestern General Hospital, of which he was the founder.

A CAMPAIGN for the prevention of diphtheria took place in Wilkes-Barre and vicinity during the month of November. More than 8,000 children from two to fourteen years of age were given three doses of toxin-antitoxin. This work was done by the doctors and Visiting Nurses' Association. A similar work was done two years ago.

THE PITTSBURGH SKIN AND CANCER FOUNDATION have conducted two symposia on cancer recently: one before the Westmoreland County Medical Society, at Greensburg, on September 12; and the other before the Butler County Medical Society, at Butler, on December 8. A general consideration of the cancer problem, from both a theoretical and a practical standpoint, was thoroughly discussed.

THE FIRST FULL-TIME county medical director to be appointed in Pennsylvania is Dr. S. J. Dickey, now living in Grove City, who assumed the duties of this office in Mercer County on January 1st. Dr. Dickey retired from active practice on July 1st, this year, and since that time has been with the Rockefeller Foundation of New York, making a study of community health work with the county unit.

NURSING SERVICE has been introduced into four parochial schools of Philadelphia by the Philadelphia Health Council and Tuberculosis Committee. Miss Emily Lydon, a graduate of the University of Pennsylvania Hospital Training School for Nurses, has been appointed to take charge of the work, which is intended to give greater effectiveness to the "Modern Health Crusade" among children.

THE MUTTER LECTURE of the College of Physicians of Philadelphia for 1925 was delivered by Dr. Edward Archibald, Professor of Surgery, McGill University, Montreal, Canada, on Friday evening, December 11, the subject being "The Pathology of the Compressed Lung; Lipoidal Injections of the Tuberculous Lung; Results of Surgical Treatment in Unilateral Pulmonary Tuberculosis."

AT THE DECEMBER MEETING of the Chester County Medical Society the following officers were elected for 1926: President, Dr. Howard Mellor, West Chester; secretary-treasurer, Dr. Joseph Scattergood; first vice-president, Dr. Frank Wells; second vice-president, Dr. James Taylor; censors, Dr. H. S. Scott, Dr. U. G. Gifford, Dr. Edward Kerr. The meeting was presided over by Dr. Frank Wells, and the address was given by Dr. U. G. Gifford.

ST. LUKE'S HOSPITAL, Bethlehem, is in receipt of a gift of $50,000 from Dr. Henry T. Trumbauer, of Coopersburg, the income of which is to be applied to the medical and surgical treatment of those patients who are unable to pay. The donation is to be exclusively utilized for charity patients. Dr. Trumbauer is 86 years of age. He was graduated from Jefferson Medical College in 1863, and has been practicing medicine for a period of sixty-one years.

DR. RICHARD H. HARTE, noted Philadelphia surgeon, who died at Vicksburg, Miss., November 14, disposed of an estate valued at $323,000 and upwards, in his will. The sum of $10,000 is left in trust to the College of Physicians, $5,000 to be used to establish the Richard H. Harte Book Fund, the income to be applied to the purchase of books for the College Library, and $5,000 toward defraying the expenses of dinners at the College to guests at monthly or other periodic meetings.

PROFESSORS CHARLES H. LEWALL AND E. FULLERTON COOK, of the Philadelphia College of Pharmacy and Science, having just completed their duties and responsibilities in connection with the revision of the *U. S. Pharmacopoeia,* are busily engaged in revising Remington's *Practice of Pharmacy,* an official textbook of this profession which is used in many colleges throughout the United States. Dr. Horatio C. Wood, Jr., and Prof. LeWall are completing the work of revision of the *United States Dispensatory,* an encyclopedic work on drugs and chemicals, now in its 21st edition.

IN A RECENT ADDRESS, the chairman of the Federation of Jewish Charities in Philadelphia emphasized the obligation of the Jewish community of that city to enlarge hospital accommodations at the Jewish and Mt. Sinai Hospitals. The Federation has arranged a campaign to raise a building fund of $3,500,000 to be used in enlarging various Jewish charitable institutions, because a large portion of the population cannot afford the cost of illness, and it is the duty of the community to assist them. The building fund campaign will be one of the greatest in the history of Philadelphia, and will serve to replace, remodel, and reëquip eleven institutions which form a part of the Federation.

THE THIRTY-EIGHTH ANNUAL BANQUET of the Ex-resident Association of Blockley, now called the Philadelphia General Hospital, was held at the Manufacturers' Club in Philadelphia, on December 1. Dr. D. J. McCarthy acted as toastmaster. Dr. David Riesman was elected president; and Dr. George Wilson, secretary-treasurer, for 1926. This occasion was observed as a testimonial to Dr. James Hendrie Lloyd who resigned from the neurological service after having been in active association for 38 years. Dr. Charles W. Burr paid a splendid tribute to Dr. Lloyd for his services and devotion to the interests of the hospital and interns.

THERE WERE forty-seven physicians who originally subscribed to the constitution and by-laws of the Philadelphia County Medical Society, and were known as the founders. The Committee on Archives of this Society is in possession of photographs of all of these except the following: Drs. William Curran, William H. Tingley, Robert Foster, Thomas Hobson, James McCulloh, Frederick A. Martin, John M. Pugh, and Neville C. Reid. The Committee on Archives would be exceedingly obliged for photographs of these men and also any facts appertaining to their personal records.

Again, there are three ex-presidents whose photographs the Committee on Archives has not been able to procure—Drs. Benjamin Horner Coates, George Hamilton, and Francis M. Perkins. Any assistance that may be rendered by readers of this JOURNAL will be deeply appreciated.

GENERAL NEWS ITEMS

DR. P. J. H. FARRELL, of Illinois, was elected Surgeon-General of the Military Order of the World War at the annual meeting held in New York, September 26, 1925.

A DINNER was held on November 23, at the Waldorf-Astoria, New York, to inaugurate the national campaign for the endowment fund for the projected National Home for Aged and Needy Physicians.

THE CLINICAL WEEK of the American Congress on Internal Medicine will be held in Detroit and Ann Arbor, Michigan, February 22-27, 1926. Headquarters will be at the Hotel Book-Cadillac, Detroit.

IT IS REPORTED that about fifty cases of an obscure ailment and one death occurred in the vicinity of Collinsville and Maryville, Illinois, and that the cause of the outbreak was attributed to the use of dairy products from cows that had eaten snakeweed.

THE BOARD OF REGENTS of the Smithsonian Institution has announced its decision to go before the American people to raise an addition of $10,000,000 to the Institution endowment for fundamental scientific research and publication.

THE AMERICAN PHARMACEUTICAL ASSOCIATION, now located with the Drug Exchange in Philadelphia, is preparing to remove its headquarters to Baltimore this month, where the secretary is located. E. G. Eberley, editor of the *American Journal of Pharmacy,* will have his office with the secretary.

DR. JAMES A. DRAPER, JR., prominent physician and surgeon of Wilmington, Del., died on December 9, of pneumonia. He was graduated from Yale University in 1895, and later from the University of Pennsylvania School of Medicine. His hospital training was gained in the Presbyterian Hospital, Philadelphia.

THE ANNUAL MEETING of the Medical Women's National Association will be held in Dallas, Texas, April 18 and 19, 1926, in pursuance of the usual custom of holding their meeting one day prior to the annual meeting of the American Medical Association, which will convene at Dallas, April 19 to 23.

WELLCOME MEDAL AWARDED.—The Wellcome Gold Medal for 1925 was awarded by the Association of Military Surgeons to Lieut. Col. Albert C. Carlton of San Francisco, for his essay on means and policies which will best enable this association to increase its membership and accomplish its patriotic objects, as stated in its constitution.

ABOUT 10,000 babies were examined physically and mentally at more than seventy baby conferences held at the various fairs in Illinois this fall under the auspices of the state health department. The predominating defects found were nutritional—rickets, bowlegs, knock-knees, decayed teeth, enlarged heads, flabby muscles, and under-size. Each baby was rated on the basis of an examination by specialists.

SIX WEEKS of patient search with a "mechanical blood hound" has resulted in the finding in a sewer pipe in St. Paul, Minn., of a tube containing $8,600 worth of radium which disappeared from a hospital. Professor Henry A. Erikson, head of the physics department, University of Minnesota, constructed ionization-chamber detectors which were attached to electric scopes, and began to hunt along sewers leading from the hospital.

AT THE LAST MEETING of the American Stomatological Association held in New York City on November 16, 1925, the following officers were elected for the year 1925-1926: president, Weston D. Bayley, M.D., Philadelphia; president-elect, George Reese Satterlee, A.M., M.D., New York City; first vice-president, Joseph Colt Bloodgood, M.D., Baltimore, Md.; second vice-president, Oliver T. Osborne, M.A., M.D., F.A.C.P., New Haven, Conn.; treasurer, Robert N. Rose, A.B., M.D., New York City; secretary, Alfred J. Asgis, Sc.B., D.D.S., New York City.

DR. JAMES W. TAYLOR, the oldest Mason in the United States, died at Lutherville, Ga., December 15. Dr. Taylor celebrated his 91st birthday last October. He had been a Mason for seventy years. He held the highest rank obtainable in Masonry, having been the general grand high priest of the Royal Arch Masons of America. While he held that position, King Edward VII of England held a similar position in the Masonry of the British Empire, and on one occasion conferred with Dr. Taylor on points of Masonic law.

ONE HUNDRED AND THIRTY-FIVE out of a total of 12,408 accidents reported to the Workmen's Compensation Bureau, during November, were fatalities. This brings the total number of accidents for the first eleven months to 163,643, and the total number of fatalities to 1,885. During November, the Bureau approved 6,343 agreements and awarded compensation totaling $1,049,036. Of the fatalities, 78 were classed as industrial, 33 as mining, and 24 as transportation and public utilities. Philadelphia, with 23 fatalities, led the other counties, and Allegheny was second with 18.

THE ALUMNI ASSOCIATION of the Ensworth Medical College was formed in Kansas City in October, with a membership of forty-three. Dr. Charles Geiger, of St. Joseph, was elected president of the association. The secretary, Dr. Charles Wood Fassett, 115 East Thirty-first St., Kansas City, Mo., is desirous of enrolling all the graduates of Northwestern, Central, and Ensworth Medical Colleges, and urges all alumni of these three colleges to send their names to him at once. The dues are $1.00 per year. It is hoped to have 100 in attendance at the meeting next fall.

A NEW MEDICAL SCHOOL is to be established in the South, at Durham, N. C., the site of the new Duke University, recently endowed by Washington Duke. It is the purpose of the Duke University trustees to associate the medical school with a city hospital, to be constructed perhaps around the existing Watts Hospital, the founder of which was formerly a partner of Washington Duke. It has been announced that probably the resources of the new school will not be limited to the present endowment funds provided by the Duke bequests, but may be increased by donations from the Rockefeller Foundation in pursuance of its usual policy of reinforcing institutions already in existence and soundly based.

THE ELEVENTH CONFERENCE of the National Committee for the Prevention of Blindness was held at the Russell Sage Foundation Building from November 30 to December 5. On the first morning, an institute for volunteer workers was held. In the afternoon, a joint meeting of the American Museum of Safety and the National Committee discussed the subject of eye hazards in industrial occupations. On the following morning, the subject for discussion was, "How can the National Committee for the Prevention of Blindness be of the greatest service, first, to state and local organizations for the prevention of blindness; and, second, to state and local organizations for those already blind, and having preventive departments?"

MEDICAL STUDY TOUR TO EUROPE.—The Travel Study Club of American Physicians, which was founded at the International Medical Congress at London, in 1913, is arranging a 1926 Study Tour to Oslo (Christiania), Stockholm, Copenhagen, Hamburg, (optional to Berlin and Munich), Cologne, Wiesbaden, Heidelberg, Strasbourg, Berne, Zurich, Leysin, Geneva, Paris, and London. Dr. Louis L. Seaman, of New York, is president; Dr. Fred H. Albee, of New York, Dr. Edward B. Heckel, of Pittsburgh, and Dr. John P. Lord, of Omaha, vice-presidents. Physicians of good standing are welcome to participate in this study tour to the limit of fifty, and for information should address Dr. Richard Kovacs, 223 East 68th Street, New York City.

THE

MEDICAL SOCIETY OF DELAWARE

THE ACTIVITIES OF THE AMERICAN MEDICAL ASSOCIATION*

CHARLES W. RICHARDSON, M.D.†

WASHINGTON, D. C.

There is no duty or obligation assumed as a member of the Board of Trustees which is so pleasant as appearing before a state association, looking into the faces of its members, and having the pleasure of meeting them and attempting to tell them something of the activities of the American Medical Association. This society is the greatest organization in the United States, for it is the only one that has for its main function not only the protection and unification of its members in the great problems of medicine, but the defense of humanity against the ravages of disease and the attempt to present health matters in such form as to teach mankind how to live more happily, more healthily, and longer.

We shall not review the history of the Association extensively, for this would make too long a story with the other matters that should be considered, but outline, instead, a view of the present activities. It was not until the reorganization plans adopted in 1891 that the life was begun which led up to the broad interests of to-day. The success of the work has been due largely to three factors: the establishment of a headquarters, the publication of the JOURNAL, and the creation of the various councils and bureaus.

There is no truism more evident than the fact that no organization can exert its full influence among its adherents or the community at large until it possesses a home and financial stability great enough to meet its requirements and fulfill its obligations.

In 1883 the JOURNAL was established under the control and business management of a board of nine trustees, whose duty it also was to supervise the publication of the Association's scientific papers therein. The founding of this periodical not only was a crowning tribute to the science of medicine, it also brought solidarity to the organization, and lifted the Association from a hand-to-mouth existence to a condition of affluence which has enabled it to finance all of its extensive undertakings since the year 1890.

Credit is forever deserved by that group of trustees who, in March, 1902, had the foresight and courage to purchase the property at North Dearborn Street and Grand Avenue, Chicago, upon which now stands the ample headquarters building—a property whose value has been continuously enhanced since its purchase. On a part of this site, a building was completed, equipped, and occupied on December 1, 1902. Thus, the second great step to add dignity, solidarity, efficiency, and character to the Association was accomplished. Witness how from time to time new life and increased efficiency have been infused into the various activities, with proportionate results. The JOURNAL's phenomenal development and the increase in other activities have necessitated three further enlargements of the original building. In its present form, it is of monumental proportions, has all modern conveniences, and apparently sufficient space to meet the requirements for a number of years to come.

In 1904 the Council on Medical Education and Hospitals was created; and in 1905, the Council on Pharmacy and Chemistry, under the jurisdiction of the Board of Trustees. In 1910 the Council on Health and Public Instruction was established, its duties pertaining to legislation, public-health organization, public instruction, and defense of medical research. Since 1922, shorn of many of its functions, this council has been reorganized as a bureau. In 1915 the Council on Scientific Assemblage was organized, and the Bureau of Legal Medicine and Legislation was authorized by the House of Delegates at the St. Louis meeting in 1922.

It must not be forgotten that previous to the reorganization of the Association, its predecessor had assiduously developed many plans for the benefit of the present organization—the reorganization itself, the established *Journal,* the headquarters with all it implies, the various councils and bureaus, with their well-defined

*Read before the Medical Society of Delaware, Wilmington, Del., October 14, 1925.

†Trustee of the American Medical Association.

rules and regulations, and a profession united and never before so eager to meet and solve its problems solely in the best interest of humanity and for the advancement of scientific medicine with righteousness and justice to all. What a heritage! We of the present day have but to recognize this fact and so shape our own activities through united action and loyalty to the profession, and with minds open to the welfare of humanity, that we may meet the various social influences working upon the body politic and solve them through adequate medical leadership. Only by this means can we carry on and hand down to our successors that added increment to past history which is our province and duty.

The American Medical Association is a thoroughly democratic organization. Its strength lies in the individual membership, which converges in the district or county society, then in the state society, which in turn, through representation in the House of Delegates, becomes a constituent part of the American Medical Association. The latter is made up of fifty-three such constituent organizations, including those of forty-eight states, the District of Columbia, and the territorial possessions of the United States. The present membership is 86,000. Every member of every county medical society whose name is reported to the secretary of the state society, and through him to the secretary of the national association, is an enrolled member of the parent organization. In order to become a fellow, the further action becomes incumbent on the member. He must associate himself with some one branch of the scientific assemblage, make application on the prescribed blank, pay the annual dues (now $5), which automatically secures him also one year's subscription to the journal of the Association. To be eligible for membership in the House of Delegates or for any of the general offices, fellowship for two years preceding the election is essential. Although the membership, through the Constitution, is subject to assessment, none has ever been levied.

The House of Delegates is the legislative body. It has charge of all business and fiscal affairs, except those delegated, through provision in the Constitution and By-Laws, to the Board of Trustees, councils, or bureaus. It shapes and passes upon all actions or policies however or whenever originating. Its authority may be said even to be administrative, though exercised through delegation to others. All amendments to the Constitution and By-Laws, all policies and activities of the Association, are referred to committees, whose recommendations, after thorough consideration, are brought before the House for final disposition. All activities are carried on *ad interim* by the officers and councils or standing committees, all of whom except one are elected by the House either on its own nomination or on nomination submitted by the president. The secretary of each council is selected by the council, subject to confirmation by the Board of Trustees.

The latter body is composed of nine members, formerly elected for a term of three years each by the House of Delegates, but changed, at the San Francisco meeting, to a five-year period. Three trustees are elected each year by the House. The Board has four stated meetings—one immediately after the election, for organization, and on the first Friday in the months of September, November, and February. Besides these four meetings, it is in continuous session from one to two days preceding the meeting of the House, and daily throughout the annual session. The Board also has an executive committee of three which meets on the first Friday of each month, except during the months of the stated meetings.

The duties of the Board, prescribed by the Constitution and By-Laws, have largely to do with the fiscal affairs of the Association. To my mind, its activities are too limited. It should have more to do with initiating administration, with the shaping of policies, not for this day or year, but for the future, having to do with conditions and circumstances that may influence the practice of medicine five, ten, or twenty years hence. After an association of five years with the Board, I know of no organization composed of more altruistic, self-sacrificing, earnest, efficient, hard-working, intelligent men, whose whole interest is centered upon one thought—the welfare of the American Medical Association.

The Judicial Council has vested in it the judicial power of the Association, and its decisions are final. Its power extends to and includes all questions involving fellowship and its relations; controversies arising under the Constitution and By-Laws to which the Association is a party; and controversies between different state societies. This Council is frequently called upon to decide questions which fall within the province of county-society boards of censors or state-society boards of councilors, where they could readily have been adjusted. The machinery for discussion exists in the county and state societies, and these should always be employed. If appeal is necessary, then the question may be referred to the Judicial Council for final action.

The Council on Medical Education and Hospitals is one of the most important in the organization. None has been truer to its ideals and so nearly accomplished them. It is now diligently employed in bringing the medical curriculum up to modern requirements, and with a keen and intelligent scheme of the proper relationship of undergraduate and postgraduate work. Plans are being made for a most acceptable uniform outline of special courses for the training of well-prepared practitioners in the various specialties.

The Council on Health and Public Instruction has ceased to exist. Since many of its functions had been taken from it, the House of Delegates at San Francisco decided to create in its place a Bureau of Health and Public Instruction, under the jurisdiction of the House, or as delegated to the Board of Trustees. During its existence, this council has done wonderful work in its field of activity, supplying information on public instruction to the authorities, and distributing thousands of pamphlets. Its work in defense of medical research has always been timely and expended to the greatest advantage. It was also through its efforts that the new lay magazine, *Hygeia,* was added to our list of publications.

The Council on Scientific Assembly has charge of the scientific work of the Association—the essential and fundamental basis upon which the organization rests, for only so long as it remains true to the ideals of unselfish scientific development will it prosper and grow. This council has jurisdiction over questions of policy in relation to scientific work, and all questions pertaining to the purpose of the scientific assemblage.

The Council on Pharmacy and Chemistry has performed a remarkable service in the protection of the profession and the public. It is composed of fifteen qualified pharmacologists, chemists, physiologists, and clinicians. Its reports and the results obtained in its laboratories are received throughout the civilized world as final in the field of drugs, chemicals, bacterial antigens, and other organic products. It safeguards the potency and purity of therapeutic agents offered; it maintains the standards of all agents of remedial value offered to the profession and the public; it is impartial and fearless in exposing those manufacturers who attempt to lower the standard of therapeutic agents; and it is merciless in exposing the false claims of proprietary-medicine manufacturers. Reports of the council appear weekly in the *Journal,* under the title "New and Nonofficial Remedies," and are published in book form yearly under the same title. Two volumes on "Useful Drugs" are also furnished to the profession at cost.

An important outgrowth of the council's work is the Bureau of Investigation, which has been of great value in its fearless and uncompromising exposure of frauds, fakes, and false therapeutic propaganda. This bureau has published many warning pamphlets and leaflets, and it conducts a department in the *Journal* on "Propaganda for Reform." It furnishes educational placards for the use of organizations interested in the public health, public lectures illustrated with lantern slides, and has published two volumes entitled "Nostrums and Quackery." These two are the most read books in my waiting room. It would repay every physician to add them to his waiting-room library. The Bureau of Investigation is a constant source of information for many lay organizations, newspapers and magazines, advertising clubs, schools, large business organizations, and individuals. Its success in exposing and flaying fakes is no doubt the source of much of the underground propaganda aimed at the Association.

The Bureau of Legal Medicine and Legislation, under the administration of a full-time secretary, was authorized by the House of Delegates in 1922. The bureau is now completely organized, and is functioning admirably under the direction of Dr. W. C. Woodward, who is well-qualified, by education and training, to conduct such work. Among other projects for the protection and welfare of the profession, action is under way on questions relating to prohibition, narcotic drugs, decrease of the tax imposed in connection with the Harrison Narcotic Act, the income tax, and other matters important to the individual physician. A uniform medical-practice act is also being worked out by this bureau.

In the Biographical Department, an adjunct of the Council on Medical Education and Hospitals, a complete card index is maintained of nearly 160,000 physicians and prospective physicians. One system of cards is made for every medical student as he enters the freshman class, recording information furnished by the school in which he matriculates. This system follows him until he is graduated or drops his course. At the present day, the histories begin with the premedical period. After graduation, the card is transferred to the physicians' biographical index, and data are added regarding his hospital internship, place and date of licensure, and other events of importance in the progress of his life work. All changes of address are immediately noted. This department, for the past twenty-

one years, has annually received the reports of the medical examiners of all states and possessions of the United States, so that it has a complete file of the official data regarding physicians registered by all the licensing boards of the country. For a similar period, the council has received full reports from all medical colleges regarding the graduates for the year. By great effort, data have been obtained of practically all physicians previous to establishing these records, not only for existing medical colleges, but also for the majority of the graduates of colleges long since extinct. Indeed, the records of this department are so absolutely accurate and complete that were the records of any medical college or the medical-licensure records of any state destroyed by fire or otherwise, the Association would be able to supply all the missing data.

From the Biographical Department is obtained much valuable information for use in that highly prized publication—the American Medical Directory, although the Directory also maintains its own card index.

Among the publications issued by the Association, the *Journal* stands out as the leading periodical of the medical sciences. It has been published with unfailing regularity since 1883, when 5,000 copies were printed, until to-day, when its circulation reaches 86,000 copies. Its scientific standard, its value as a vehicle for publication of the best that is offered in medical and surgical research, its well-prepared editorials, its valuable abstract and other departments, with its well-rounded literary excellence, make it one of the best and most welcome of the weekly medical journals published. The effort and time employed in its preparation is too great to be covered in the confines of this paper, but you may be assured it is no simple task. The advertising pages are guarded with great care, and all copy in this department is carefully scrutinized by a competent committee before it is accepted. A Spanish edition of the *Journal* is published for circulation in the Central and South American states.

Various special journals are also published by the Association, and it is hoped, with the completion of additions now being made to headquarters, to add to their numbers. These journals go to only a limited number of subscribers, but they are published without financial loss. The list includes: *Archives of Internal Medicine, American Journal of Diseases of Children, Archives of Neurology and Psychiatry, Archives of Dermatology and Syphilology, Archives of Surgery,* and *Archives of Oto-Laryngology.*

One of the recently added publications is *Hygeia,* "a Journal of Individual and Community Health," which is now about to complete its third year. *Hygeia* was established by the Council on Health and Public Instruction, and its publication was ordered by the Board of Trustees with considerable trepidation. During its first year, these misgivings were greatly augmented, and there were some who advised its discontinuance. All are now united in praise of it, and we look forward to a phenomenal success. There never has been any question as to its literary merit; it was the financial drain that was dreaded, but during the past year it has won a foothold in the mind of the public, as evidenced by the rapidly increasing subscription list, and the circulation is now over 36,000 per month. This magazine should be in the hands and on the office table of every physician in the country. Many subscribers have been gained through reading the copy in the doctor's waiting room.

It is published with the idea of meeting the needs of individual and public-health instruction. It is intended also to give authoritative information concerning the ideals, aims, and methods of scientific medicine; to bring the layman into closer relationship with the profession, by giving him a clearer outlook upon health problems and the methods employed to solve them; to show the errors of quackery, patent medicines, and cults, and how they undermine rather than benefit the physical well-being. Its success is practically in the hands of the profession, and I bespeak your hearty support in enabling it to accomplish the worthy purpose for which it was founded.

The *Bulletin,* which is published for organization purposes, has had only a limited circulation heretofore, and therefore has not accomplished all the good that had been expected of it. In order to reach a wider circle of readers, it is now being mailed, by direction of the House of Delegates, to all fellows of the Association. It is intended as a medium for exchange of views between officers of societies in regard to organization subjects, professional questions, medical economics, and other questions pertaining to the public and the profession. Its columns are open to all members of the profession. Its circulation is about 56,000.

The Quarterly Cumulative Index of Current Medical Literature is one of the most valuable of the Association's publications. It is of especial interest to all who wish to keep in contact with medical topics published in the medical literature throughout the world. For medical authors it is invaluable, and it has more influ-

ence than the *Index Medicus*. It is an open secret with the Board of Trustees that it has become so influential that the great foundation which supports the latter publication is considering the advisability of transferring its support to the *Quarterly*. The library, also, is to be rehabilitated through the aid of the N. S. Davis fund, and this project is now under way.

The first number of the *Archives of Oto-Laryngology* appeared in January, 1925. This journal has met an enviable success, and already is a paying investment.

The *Archives of Pathology and Laboratory Medicine* was authorized by the Board of Trustees in September, and it is hoped that it will make its initial appearance in January, 1926.

Another important activity launched at the September meeting of the Board, one which had been referred by the House of Delegates at the Atlantic City meeting, is the Council on Physiotherapy, whose membership of ten was chosen at that time. Its function will be practically the same as that of the Council on Pharmacy and Chemistry in the field of testing out and endorsing or disapproving the various mechanical devices for diagnosis or treatment of disease.

The relation between the lay press and the headquarters staff is a cordial one. More and more are lay publications looking to us for authoritative information on matters pertaining to health problems; for statements regarding new methods and so-called medical discoveries; and for the proper placing before the public in readable and intelligent form descriptions of advances in medical science. They are also depending upon us for the correct interpretation of the large amount of medical propaganda which is constantly being presented to them. Even in regard to safe standards of advertising, they are constantly in touch with the Bureau of Investigation. This bureau was active in the exposure of the mail quackery, in which it had the hearty support and coöperation of the North American Newspaper Alliance. Through this agency, wide circulation was given the work. Our headquarters also broadcasts by radio, to millions of listeners, material from Hygeia and other important health instruction of an authoritative nature.

Last but not least is the wonderful work done by the Council on Scientific Assembly and the Committee on Scientific Exhibit. It is through the activity of these two organizations that the annual meetings are perfected year by year. To those who attend regularly, the improvement is almost startling. The heart clinic, the pathologic exhibit, and the motion-picture theater are the newest and most interesting additions. Prepared and guided newspaper publicity at the annual meetings regarding scientific medicine is another great advancement.

Through the exertions of the Headquarters staff, American medicine is coming gradually but positively into its own, and the semiprofessional organizations are now seeking the aid of an association with our organization in their activities.

In closing, there is one important subject which I wish to bring before you for most thoughtful and earnest consideration—periodic physical examinations. This question has been thoroughly canvassed by the Board of Trustees, the Council on Health and Public Instruction, and the House of Delegates of the American Medical Association. A form of blanks has been prepared by the Council, in conjunction with a committee of the secretaries of the state medical societies, which meets all requirements for a standardized and uniform type of record. As originally prepared, the blank was objected to by some on account of its small size, and others have been prepared to meet this objection. For those not well versed in this form of procedure, it would be well to read the explanatory pamphlet prepared by Dr. Haven Emerson, entitled "Periodic Medical Examinations of Apparently Healthy Persons." The record cards and instructions may be obtained by application at headquarters, and a new volume of instructions is now ready.

It hardly seems necessary to discuss with an enlightened profession the necessity for such examinations, since indisputable evidences of their value are constantly being presented in your daily activities. Almost daily are you brought into contact with cases whose prognosis would have been markedly altered had such an examination been made in time to detect the incipient progress of the disease. Of what incalculable value will it be to large numbers of people whose whole course of life is leading to an unhealthy state which may easily be corrected from facts ascertained at these examinations! Also, from information so gleaned, strict directions or instructions may be given which will add to health, happiness, and industrial and economic improvement. Why should we permit commercial medical organizations to perform this essential procedure for us? The cemeteries are full of those who were not ill enough to consult a doctor!

Deafness Increasing.—Deafness, it is said, is increasing, although there are now more aids to the hard of hearing.

BOOKS RECEIVED

THORACIC SURGERY. The Surgical Treatment of Thoracic Disease. By Howard Lilienthal, M.D., Professor of Clinical Surgery at Cornell University Medical School. Two octavo volumes totaling 1294 pages, with 90 illustrations, 10 in colors. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $20.00.

APPLIED BIOCHEMISTRY. By Withrow Morse, Ph.D., Professor of Physiological Chemistry and Toxicology, Jefferson Medical College, Philadelphia. Octavo of 958 pages with 257 illustrations. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $7.00 net.

A TEXTBOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M.D., Professor of Medicine, Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; and L. Napoleon Boston, M.D., Associate Professor of Medicine, Graduate School of Medicine, University of Pennsylvania. Third Edition. Entirely Reset. Octavo of 1,422 pages, 555 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $12.00 net.

CHEMICAL PATHOLOGY. Being a Discussion of General Pathology from the Standpoint of the Chemical Processes Involved. By H. Gideon Wells, Ph.D., M.D., Professor of Pathology in the University of Chicago, and in the Rush Medical College, Chicago. Fifth Edition, Revised and Reset. Octavo of 790 pages. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $8.50 net.

A TEXTBOOK OF PHYSIOLOGY. By William D. Zoethout, Ph.D., Professor of Physiology in the Chicago College of Dental Surgery (Loyola University), and in the Chicago Normal School of Physical Education. Second Edition. St. Louis: C. V. Mosby Company, 1925. Price, $4.50.

THE THERAPY OF PUERPERAL FEVER. By Privatdozent Robert Koehler, M.D., Formerly Assistant of the Gynecological Department of the Krankenhaus Wieden (Director: Hofrat Professor Dr. Josef Halban) in Vienna, Austria. American Edition prepared by Hugo Ehrenfest, M.D., F.A.C.S., Associate in Obstetrics, Washington University School of Medicine. Octavo of 276 pages with 27 illustrations. St. Louis: C. V. Mosby Company, 1925. Price, $4.00.

INTRAVENOUS THERAPY. Its Application in the Modern Practice of Medicine. By Walton Forest Dutton, M.D., formerly Medical Director, Polyclinic and Medico-Chirurgical Hospitals Graduate School of Medicine, etc. Illustrated with 64 half-tones and line engravings, some in colors. Second revised and enlarged edition. Philadelphia: F. A. Davis Company, Publishers, 1925. Price $6.00 net.

RADIOGRAPHY. A Manual of X-Ray Technique, Interpretation and Therapy. By Charles D. Enfield, M.D., F.A.C.P., Roentgenologist to St. Anthony's Hospital and Norton Memorial Infirmary, Louisville, Ky. 194 illustrations. Philadelphia: P. Blakiston's Son & Company. Price $10.00.

PSYCHOLOGICAL HEALING. A Historical and Clinical Study. By Pierre Janet, Member of the Institute, Professor of Psychology at the College of France. Translated from the French by Eden and Cedar Paul. In two volumes. New York: The Macmillan Company, 1925. Price per set $14.00.

MEDICAL HEREDITY. Distinguished Children of Physicians (United States, to 1910). By William Browning, Ph.B., M.D., Professor of Neurology, Long Island Medical College, etc. 250 pages. Baltimore: The Norman, Remington Company, 1925. Price $4.00.

THE SURGICAL CLINICS OF NORTH AMERICA. October 1925, Volume 5, No. 5 (St. Louis Number). Philadelphia and London: W. B. Saunders Company.

THE ART AND PRACTICE OF MEDICAL WRITING. By George H. Simmons, M.D., Editor and General Manager Emeritus, American Medical Association, and Morris Fishbein, M.D., Editor, *The Journal of the American Medical Association*, Chicago. Press of American Medical Association, 535 North Dearborn St., Chicago, Ill., 1925.

HEALTH THROUGH PREVENTION AND CONTROL OF DISEASES. By Thomas D. Wood, M.D., College Physician and Adviser in Health Education, Teachers College, Columbia University, and Hugh Grant Rowell, M.D., Physician, Horace Mann Schools, Teachers College, Columbia University. World Book Company, 2126 Prairie Ave., Chicago, Ill., and Yonkers-on-Hudson, New York, 1925. Price $1.00.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

SIMPLIFIED NURSING. By Florence Dakin, R.N., Inspector of Schools of Nursing, State of New Jersey, Octavo of 497 pages; 77 illustrations. Philadelphia: J. B. Lippincott Company.

In this work, the author not only gives the fundamentals of nursing; she has been successful in writing into the lines such knowledge of anatomy, physiology, bacteriology, etc., as is essential for an able nurse. The author's ability is very clearly shown by the accurate instructions in carrying out the treatment of patients either in the hospital or the home. This work alone, thoroughly and conscientiously mastered, is an education for the trained as well as the practical nurse.

The subject is presented in lesson form ideally arranged for teaching purposes, but this does not interfere with the readability of the book.

AMERICANITIS — BLOOD PRESSURE AND NERVES. By William S. Sadler, M.D., F.A.C.S. Pp. 176. New York: The Macmillan Company, 1925.

Dr. Sadler in this book warns the American people against the evil effects of high-pressure life, speed, and jazz. Common-sense advice is given regarding hygiene of the body and mind, while the reader is constantly warned against going to excess even in his reforms, or making a fetish of any one hygienic measure. While written in popular style, the statements in this book keep well within the bounds of modern medical knowledge.

The last page contains this practical summing up of the whole matter: "We are never going to accomplish much toward the lessening of the terrible death rate from heart failure, Bright's disease, apoplexy, and arteriosclerosis until we train the American people to go to the doctor once or twice a year as they go to the dentist.....Why should we wait for some physical catastrophe to overtake us before we send for the doctor?"

SURGERY OF PULMONARY TUBERCULOSIS. By John Alexander, M.D., Assistant Professor of Surgery, University of Michigan. Introductions by Hugh Cabot, M.D., Professor of Surgery, University of Michigan, and Edward R. Baldwin, M.D., Director of the Trudeau Foundation, Saranac Lake, N. Y. Being the Samuel D. Gross Prize Essay for 1925. Pp. 356, with 65 illustrations, cloth, price $4.50. Philadelphia: Lea & Febiger Company, 1925.

This is an exceptional monograph upon a subject not well enough known in America. When surgery can cure or improve two thirds of the cases of pulmonary tuberculosis selected for operation after all other means have been exhausted without avail, it is high time that the profession at large became fully conversant with the

(Continued on page xiv.)

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BOOK REVIEWS

(Continued from page 282.)

latest developments in this field—a field wherein Europe is almost a surgical generation ahead of America. With such hopeful messages as Dr. Alexander presents, there should be scant delay in Americans taking the lead, or at least being quick followers. His book presents practically all that is known on this subject, and is particularly full in those parts dealing with the various surgical procedures and their indications and contraindications. The data are made more valuable by the addition of an unusually complete bibliography, excellent illustrations, and a complete index.

Such a work, with so much that is new to the most of us, cannot be reviewed; it must be read; and it is the reviewer's opinion that the physician or surgeon who does not read it, or at least acquaint himself with its major considerations, is doing himself and his patients an injustice. The book, to our mind, is the outstanding contribution of 1925 to the surgical literature of America.

THE PRACTICAL MEDICINE SERIES, comprising eight volumes on the year's progress in medicine and surgery. Under the General Editorial Charge of Charles L. Mix, A.M., M.D. Volume III, The Eye, Ear, Nose and Throat. Price $2.00. Series 1924. Chicago: The Year Book Publishers, 304 South Dearborn Street.

This volume is a little larger than usual, containing 481 pages, about 196 being devoted to the eye, 113 to the ear, and 154 to the nose and throat. The ophthalmologist and otolaryngologist who reads the important journals may find little he does not know about. However, if a busy practitioner misses something of much importance in the voluminous literature on these subjects, he is likely to find it referred to or reviewed in this book. For the ophthalmologist, this volume is useful for the nose, throat, and ear information. For the otolaryngologist, it is useful for the eye information. It should also be of use to the general practitioner or internist.

DISEASES OF THE NOSE, THROAT, AND EAR. By William Lincoln Ballenger, M.D., late Professor of Otology, Rhinology, and Laryngology, College of Physicians and Surgeons, Department of Medicine, University of Illinois. Revised by Howard Charles Ballenger, M.D. Fifth edition, illustrated. Philadelphia and New York: Lea & Febiger, 1925. Price $10.00.

In the new edition of this standard work, the author's conception of the pathology as well as the treatment is in keeping with the best modern thought. The diction is clear and concise, and the illustrations excellent. The addition of some hundred pages to the consideration of ear diseases, further strengthens the book, so that one is justified in saying that it is one of the best, if not the best treatise on this subject printed in any language.

TREATMENT OF KIDNEY DISEASES AND HIGH BLOOD PRESSURE. By Frederick M. Allen, M.D. Part I. Practical Manual for Physicians and Patients. The Physiatric Institute, Morristown, N. J.

A small volume of 206 pages, but so full of meat that one is tempted to use it as a text on "How Books Should be Written." The subject treated of has received a great deal of attention within the last decade, and most of the recent studies are still confined to medical journals. Many of the points raised are controversial, and not a few of the conclusions lack a definite clinical basis. Yet, if there is one who may speak with authority on this leading medical problem, it is Dr. Allen, whose work on diabetes has been monumental.

(Continued on page xvi.)

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BOOK REVIEWS

(Continued from page xiv.)

Briefly, the author is of the opinion that "the disturbances involved are essentially three; namely, nitrogen retention, edema, and hypertension. The important remedies for these are two; namely, protein restriction and salt restriction. An aggregate of millions of years can be added to human life, and a corresponding saving of health, happiness and economic values can be effected by the correct application of these rational measures." A very bold statement, indeed, but when backed up by years of observation and research, it presents a challenge which we dare not disregard.

A very valuable addition to the excellent text is a detailed description of the various laboratory methods employed, including blood chemistry, though this would seem superfluous in a treatise intended "for patients."

A COMPEND OF DISEASES OF THE SKIN. By Jay Frank Schamberg, A.B., M.D., Professor of Dermatology and Syphilology, Graduate School of Medicine, University of Pennsylvania. Seventh edition. Philadelphia: P. Blakiston's Son & Co. Price $2.00 net.

This small volume presents in a commendable manner the salient facts of the more common dermatoses. Such facts are given in such a manner as to make this book valuable for quick reference and for rapid review by the student of medicine.

In some of the dermatoses, stress is laid on pathology—space that could be utilized with greater profit for the elaboration of some of the clinical descriptions.

The number of tables of differential diagnosis could be increased with great advantage, and this would materially add to the value of the volume. The illustrations, on the whole, are most excellent. Some few, however, could with advantage be replaced with more modern ones.

The chapter on syphilis is very brief, especially the part dealing with the clinical description. Considerable space is devoted to the medicinal agents employed in the treatment of this disease, and the value of the bismuth compounds appears to be over-emphasized, considering the evidence at hand. No mention is made of laboratory diagnosis of syphilis, especially the Wassermann reaction, although space is given to a discussion of the treatment of neurosyphilis which could easily be omitted from such a work.

On the whole, however, this volume has earned for itself a unique and distinct place among the dermatologic treatises.

SURGICAL PATHOLOGY. By William Boyd, M.D., M.R.C.P. Ed., F.R.C.S., Professor of Pathology, University of Manitoba, etc. Philadelphia: W. B. Saunders Company, 1925. Pp. 837; cloth, $10.00 net.

A foreword by William J. Mayo states that the work is a sincere attempt to place pathology before the student and the practitioner from a practical standpoint—a handbook to the surgeon and the internist, and a guide to the beginner. In the preface, it is made clear that the book is for the surgeon and not the pathologist nor the bacteriologist.

In the introductory chapter on "Surgery and Pathology," the author endeavors to show the necessity of the surgeon having a knowledge of pathology, and some rather bold and fantastic statements are encountered. The chapter on "Surgery and Bacteriology" shows that the selection of the flavines, gentian violet, or mercurochrome for treatment should depend upon the variety of microörganism causing the infection. The various organisms causing infections of different parts of the body are described, and autogenous versus stock vaccines are discussed, the opinion being expressed that

(Continued on page xviii.)

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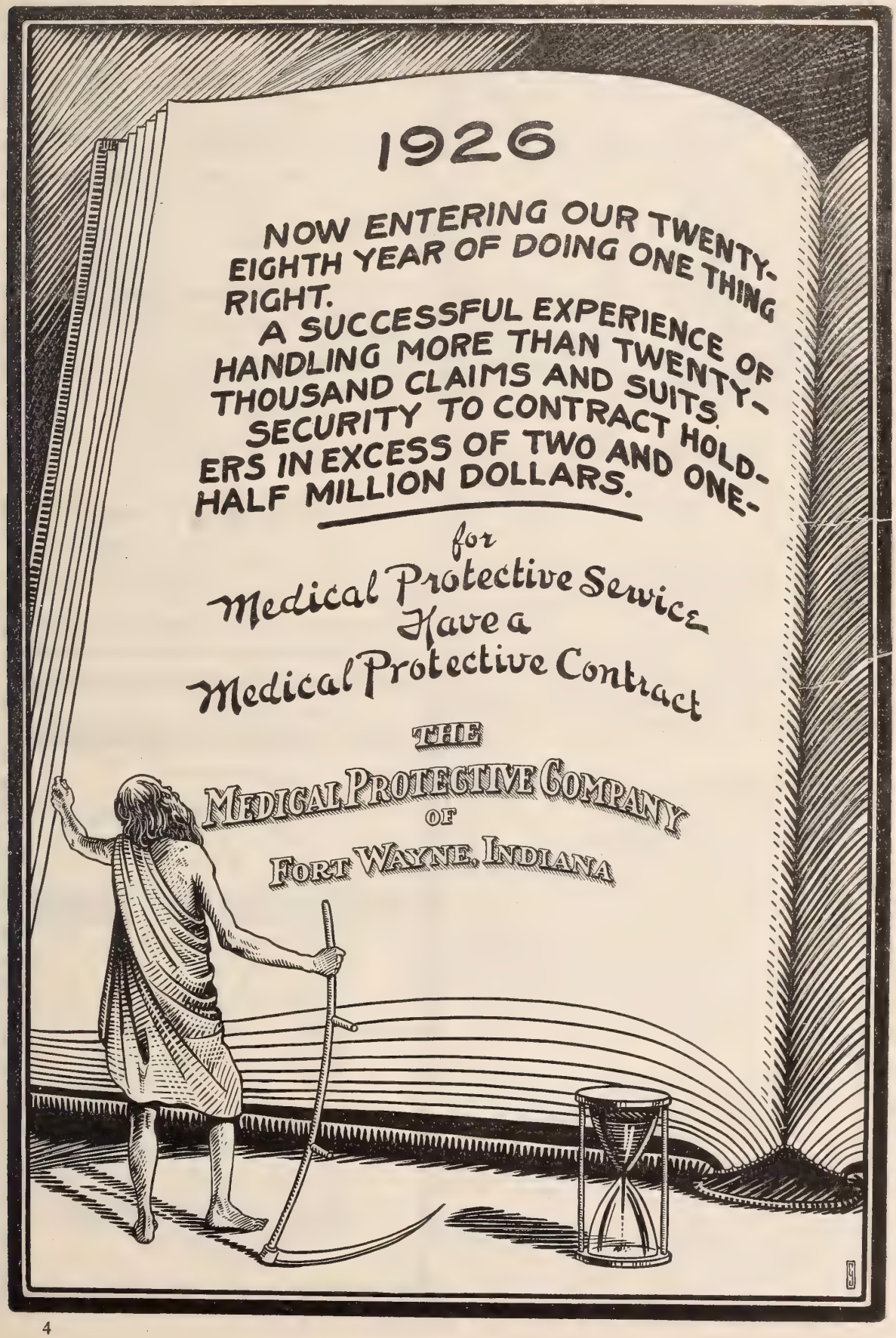
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BOOK REVIEWS

(Continued from page xvi.)

any virtue in the latter is due to the effects of foreign-protein injection. Several pages of good advice, which should be read by every surgeon, show the proper methods of collecting specimens for the various laboratory examinations. The chapter concludes with a discussion of leukocytosis, blood typing, and transfusion.

Other chapters in this section treat of inflammation, tuberculosis, syphilis, thrombosis and embolism, tumors, and cysts.

The chapter on tumors includes arguments, both good and bad, as to the likelihood of cancer, or any tumor, being bacterial in origin. There is also a very good but short résumé of the experimental work on tumor transplantation. Several pages are devoted to the effect of radium on carcinoma, and several pages to the part played by heredity in cancer. The various tumors, benign and malignant, are described. The author believes that malignant tumors of muscle, lymphoid tissue, and pigment cells should not be classed with the sarcomata, and states that simple inflammatory tissue, especially when undergoing repair, may not at times be differentiated from sarcoma by the microscopic appearance.

The second part of the work, "Special Pathology," takes up the various organs of the body in order. The description of the giant-cell sarcoma in the chapter on "Diseases of Bones" should be read by the hospital pathologist as well as by the surgeon, for there is much valuable information for both upon this subject. As would be expected from a surgical point of view, there is very little space devoted to the lung.

Typographical errors are few, and the many illustrations, including 13 full-page colored plates, are well selected, most of them being made from the author's own material. A praiseworthy feature is that the unusual conditions are not described at length in the text, but a short paragraph entitled "Rare Conditions," at the end of each chapter gives a brief description of the infrequently encountered lesions or processes.

The work is a splendid treatise, and every surgeon should be familiar with the entire text, for, as the author states in the preface, "Modern surgery is based on pathology as well as on anatomy."

EYE, EAR, NOSE AND THROAT MANUAL FOR NURSES. By Roy H. Parkinson, M.D., Visiting Oculist and Aurist to St. Joseph's Hospital, San Francisco, California. Illustrated. St. Louis: The C. V. Mosby Company, 1925. Price $2.25.

This is a very useful book for nurses, particularly when used under the direction of the teacher or surgeon; although, in the first part there are symptoms and treatments given that may mislead a nurse or actually result in her doing harm. The subjects are well outlined in the 201 pages. The instruction in preparations for operations, and the lists of instruments used, are useful. The chapter on "Points in Care and Treatments of Eye, Ear, Nose, and Throat Conditions" is very good, and the chapter on "Public Health" is valuable for the general nurse, and particularly so for the public-health worker.

DISEASES OF INFANTS AND CHILDREN. By Henry Dwight Chapin, A.M., M.D., Emeritus Professor of Medicine (Diseases of Children) at the New York Post-Graduate Medical School and Hospital; and Lawrence Thomas Royster, M.D. Professor of Pediatrics and Head of the Pediatric Department of the University of Virginia. Fifth revised edition. New York: William Wood & Co.

A book which reaches the fifth revised edition in sixteen years has made a record for itself that would not be possible were the material in it not only up to date, but also what the readers of textbooks need and

(Concluded on page xx.)

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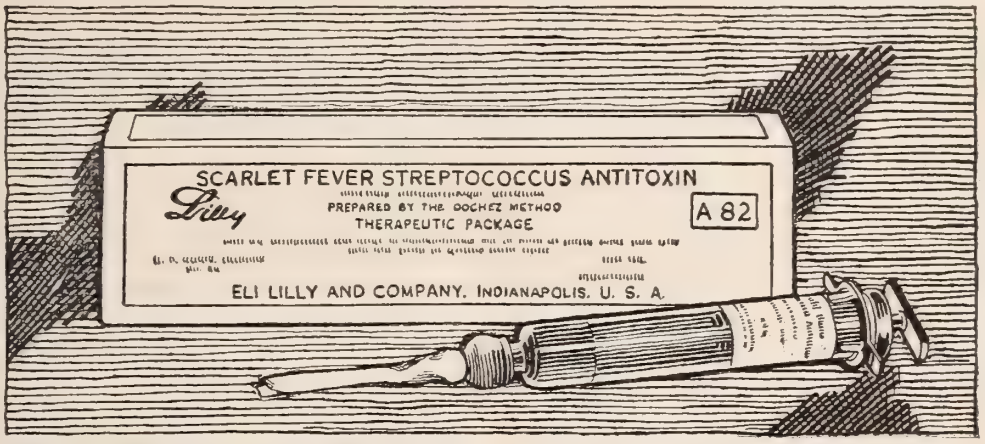
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BOOK REVIEWS

(Concluded from page xviii.)

demand. The chapter on "Signs of Illness in Infancy" is particularly good, as is the one on "Suggestive Schemes for Diagnosis," while the illustrations are exceptionally clear and distinct. It would seem that, at least so far as the general practitioner is concerned, more description might appropriately be given of some of the newer methods of laboratory technic, such as the Mantoux test for tuberculosis.

A new chapter on "Social Pediatrics" is a valuable addition to the book, and the fact that diagnosis and treatment are especially emphasized makes the book well worth a place in any physician's library, as, after all, the methods to be employed in the making of a diagnosis are what is most desired by those who resort to the use of textbooks, which naturally means practically the entire profession.

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THE PREVENTION OF HEART DISEASE*

ALEXANDER LAMBERT, M.D.
NEW YORK, N. Y.

It is timely to consider the possibility of diminishing further a disease which cripples so many human beings, inhibiting the enjoyment of life in youth, diminishing the earning power throughout the productive years of life, and increasing the sadness of later years, and which is today the greatest cause of death at all ages in this country.

The movement for the prevention of heart disease, however, is but one factor in the development of preventive medicine which has occurred during the last twenty-five years. The medical profession has incessantly sought to find the causation of individual diseases which have devastated humanity, and so far, whenever they have found the cause, they have immediately done two things: first, sought to apply their knowledge for the benefit of the individual, and to cure the individual patient under their care; and second, in coöperation with the organized endeavors of the state and city health departments, endeavored to prevent the recurrence of the cause, or bring about changes, through sanitation or otherwise, which might eradicate the disease itself. The work of a generation, of two generations, in fact, has borne fruit, and diseases which a few years ago were common have now become unusual.

For example, the death rate of diphtheria in 1887 was 130 per 100,000. Following the introduction of antitoxin, and later of toxin-antitoxin, it has decreased until at present the rate wavers around 10 per 100,000. In 1887, two per cent of all children died of diphtheria. Now, with the Schick test, and the means of prevention at hand, it requires only a determined public opinion among laity and profession alike to force greater use of the knowledge possessed, and thus to obtain a still lower death rate. Such an achievement justifies a special endeavor on the part of the profession through education of both physicians and laity.

Life-insurance statistics show that in the same period the death rate from measles has dropped from over 30 to below 10 per 100,000—or one third of its former rate.

Whooping cough, like measles, is gravely under suspicion as a cause of heart disease in early childhood. This disease causes more deaths in the first year of life than during any other year, and from the first to the fifth year the mortality averages 50% higher for girls than boys. Its mortality is higher in rural districts than cities, and among negroes than whites. Since 1885 its death rate has fallen from about 24 per 100,000 to about 5, although there has been a fluctuation in the rate for ten years.

The diminution of both mortality and morbidity rates from typhoid fever is another triumph of preventive medicine. This has been brought about since the last decades of the 19th century by improved water, milk, and other food supplies, and care of sewage. The Spanish War taught us the danger of direct contacts and of transmission through insects, and following that, inoculation against the disease further reduced its occurrence. Records show that early adult life presents the greatest incidence of typhoid; yet, whereas from 1860-69 the death rate in Massachusetts was 102 per 100,000, in 1910 it has fallen for these most susceptible years to 10.4. Inoculation against typhoid showed its value during the World War, when the disease that had formerly been a scourge to all armies became rare among those who used this preventive measure. It was further demonstrated last fall in an epidemic arising from oysters in New York. It was noticeable that while both sexes had eaten the oysters, the disease occurred more frequently among young women than men, although the reverse was formerly the case. The young men had been inoculated during the war, or even more recently, and apparently this had held sufficiently to change the group incidence.

The control of infectious diseases, as just indicated, has demonstrated the value of preventive medicine as applied through local and state

* Address delivered before the Public Meeting of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

health departments. The model, however, for preventive cardiac work, is the crusade against tuberculosis launched some twenty-five years ago by a determined group of both laymen and physicians. At that time, tuberculosis was the greatest cause of death in this country; but it has now been reduced by one half, with a hope of a further noticeable drop by 1930.

All this means one practical thing: that children born today have a longer expectancy of life than those of the last generation. During the last thirty years, according to the Massachusetts statistics, the average life has been increased twelve years. These facts are the basis on which has arisen the conviction that there are other diseases which today demand the same concentrated effort against them as did tuberculosis a quarter-century ago.

The main cause of death in the United States today is heart disease, and the death rate from this cause seems to be steadily rising in recent years. But there is also another mortal disease which seems to be steadily increasing (although, judging from the published life-insurance statistics, the increase may perhaps arise more from accurate recognition and improved records than from greater incidence), and that is cancer. In the last generation, its death rate has run at a slowly and slightly rising curve. Education leading to its early recognition, the use of the x-ray and radium, and the brilliant surgery of the past generation, have alone accomplished anything in its control.

Until a few months ago our knowledge of the causation of cancer could have been summed up by the statement that the cause was unknown. But announcement has recently come from England of experiments so brilliant that they justify us in the belief that a distinct advance has been made in the solution of the causation of at least certain forms of cancer. Broadly heralded as these discoveries were in the public press, one does not appreciate their full meaning until the original articles published in the *Lancet* are read.

It is worth while to digress for a moment to consider the full meaning of this work. Experiments have shown that while cancers occur widely in birds and mammals, the cancers of one species of animal have not been transferable to other species, although Peyton Rouse, in 1911, showed that chicken tumors could be transmitted to other chickens by means of a cell-free filtrate in which even the most minute bacteria were not visible through our microscopes, but which reacted to carbolic acid, chloroform, heat, and other reagents as though there were some living substance therein which produced the transmission.

Dr. W. E. Gye, in England, has shown that the tumor of the chicken is confined to domestic fowls, and that it even grows best in the specific Plymouth Rock race of hens in which it was found. He has found that there is a particular living virus which produces the growth of these tumors, not in itself specific for each race of animals, but that its peculiar specific limitation to each separate race is produced by some chemical substance in the animal cells which is specific for each race of animals. This substance can be separated from the virus which produces the tumor. In cultures obtained from chicken tumors, the infecting power ceases after a few days, due not to the death of the living virus, but to the destruction of the specific substance contained therein. If this substance be supplied anew, the fluid again becomes infective. Gye, moreover, found that he could destroy the living virus or the specific activating substance at will.

He succeeded for the first time in transplanting mammalian tumors into birds by combining with the specific activating substance from chicken sarcoma the living virus respectively from mouse sarcoma, from rat carcinoma, and from adenocarcinoma of the human breast, producing in each instance characteristic chicken sarcoma which in no way differed from the original chicken tumor. Experiments such as these justify the belief that the path has been opened to knowledge of the cause of these tumors. Whether the living virus is a universal factor and can be proved so for all tumors remains to be seen; but Gye seems to have proved the fact for certain tumors.

Mr. J. E. Barnard, working with Dr. Gye, has improved the dark-field microscope to such an extent that he has been able to use ultraviolet rays of a wave length of 546 millimicrons (546/25,000,000 of an inch) to photograph the organisms of these tumor cultures, the size of the organisms being measured as 0.075 of a micron in diameter (three millionths of an inch). It has later been reported that Barnard has further improved his technic, altogether eliminating glass lenses which prevent certain ultraviolet rays from passing through, and using quartz lenses with a brilliant cadmium light in a vacuum. He has thus obtained microphotographs with 1/10 of a second exposure.

Experimenting with the organism of animal pleuropneumonia, which is also a filtrable virus, Gye and Barnard have succeeded in photographing the method of growth of this organism, showing that little spherules bud out from a spheroid body, and for a certain length of time at least, are connected by a minute thread of

tissue to the parent spheroid. They have succeeded in freeing and separating the original body from these minute spherules by filtering through membranes, and producing the disease by means of the filtrate. They then proved that the cancer virus is a spheroid body of the size described above, and showed that its growth is similar to that of the pleuropneumonia organism.

This does not mean that any cure for cancer has been found, but it does mean that an understanding of the cause is at last within the reach of human endeavor. And whenever the cause of any disease has been found, patient, persistent work has solved the control of that disease. To bring about the desired solution will require many years of patient work among the intelligent laboratory and clinical workers in medicine, and much assistance from laymen. But it can be done, and cancer can be conquered as tuberculosis has been.

So also can heart disease be conquered. As has already been said, this is today the greatest cause of death in this country. Whether or not there has been a great increase in the factors producing heart disease is to me a puzzling question. Undoubtedly the actual number of deaths from this malady have increased in the last few years, in nine tenths of the cases the age being over 40, with an average of about 56 years. We must take into consideration, however, that the death rate from infectious diseases has enormously diminished and the expectancy of life in general has thereby strikingly increased. One factor remains constant: death occurs in 100% of all humanity. Even though death from many causes may be diminished, men must still die from some cause, and there must necessarily then be an increase of those who die from heart disease, more especially since this is frequently due to the degeneration of arteries and kidneys produced by the wearing out which we call old age.

It is a misfortune that the habit has been transmitted from past generations of thinking in terms of diseases of the heart rather than disease of the circulation. In our medical writings, diseases of the blood vessels and of the kidneys have been separated from those of the heart, and the equilibrium of the circulation as a whole affected by these three factors has usually been considered separately. Yet the same infections that cripple the heart itself cripple the kidneys, and not infrequently injure the blood vessels as well. Scarlet fever, influenza, measles, pneumonia, and rheumatism injure both cardiac muscles and valves. Also scarlet fever and diphtheria produce diseases of the kidneys that cripple and shorten life through hypertension and other defects of the circulation. Abscessed tonsils and teeth are frequently the portals of infection for both kidneys and heart. Syphilis cripples both blood vessels, heart muscles, and valves. Tonsillitis may be followed by rheumatism—the disease most commonly damaging the heart in early life—or by an acute injury to the kidneys which in the end may be the disturbing factor of the circulation that blots out existence. The rheumatic infection, when it injures the heart valves, forms the foundation on which the streptococcic infections are grafted, producing the lesions of malignant endocarditis. These secondary infections produce no mean toll of death before the fortieth year, and their enumeration but emphasizes the many causes and problems connected with the origin of heart disease.

In dealing with the problem of prevention, we are today handicapped by a lack of knowledge of the actual prevalence of heart affections. The mortality statistics do not necessarily bear any relation to the numbers of living humanity suffering from a given disease, and its crippling effect in those afflicted.

Sufficient facts are only gradually becoming available to give us a clinical estimate of the age at which infection, with the onset of valvular or other organic heart disease, takes place. They are not yet published, but statistics are slowly being collected that will give us an intelligent conception of the history and course of the different forms of cardiac infection. Heretofore, as we looked at most patients, we gazed, as it were, at some definite picture taken at some unknown and indefinite period during the course of some cardiac injury.

Haven Emerson, in his Shattuck lecture, speaking of the etiology of organic heart diseases, says that while the ultimate classification of all, or even the most important direct etiologic factors in causing organic heart disease, must await more precise knowledge, for convenience in guiding the always elusive public-health educator and propagandist, we can safely state, that of the infections, syphilis and rheumatism are positive causes; that diphtheria, typhoid, and scarlet fever are presumptive causes; that measles and whooping cough are under serious suspicion; that infected tonsils and diseased and cryptic foci of various kinds may in many cases prove to be the true cause of what is called rheumatic or cardiac infection; that senescence, arterial hypertension with or without renal disease, and the insidious diseases of occupation, which are often mistakenly reported as arteriosclerosis, play a large but wholly undetermined rôle.

Emerson further enumerates the causes of 927

cases of cardiac disease in adults which were sufficiently carefully analyzed to permit of a sound opinion as to the probable causative infection: acute rheumatic fever, 331; acute tonsillitis, 207; syphilis, 122; scarlet fever, 78; diphtheria, 47; pertussis, 14; measles, 54; carious teeth, 163; chorea, 7. These figures were taken from the records in the Associated Cardiac Clinics in New York City.

It was more difficult to sort out the causation in the case of children, because the records show all the infections, and in many instances several of them prior to the onset of the reported symptoms of heart disease, but in 720 cases in which it seemed best to place the probable etiological factor, the chief factors were given as follows: acute rheumatic fever (growing pains, etc.), 279; acute tonsillitis or sore throat, 282; syphilis, 0; scarlet fever, 53; diphtheria, 63; pertussis (at one clinic only), 130; measles, 232; carious teeth (none at one clinic), 202; chorea (none at two clinics), 49.

Difficult as it is to place the causation where it should belong years after it has occurred, it is still more difficult, in fact impossible, to state in each disease what is the percentage of cardiac injury in those attacked. In rheumatic fever in the first attack, the cardiac involvement is given by different observers as from 51% to 57%, and as occurring in the second attack in 68% of patients.

The prevalence of heart disease can best be appreciated when we realize that 5% of the men called in the draft for the World War were refused because of heart disease; about 2% of the food handlers in New York, and of the industrial workers in Cincinnati and New York, were found to have clinically important heart disease; about 2% of life-insurance applicants are rejected for this cause; and about 2% of the children in school populations are found to have some form of cardiac disorder.

Dr. Haven Emerson, and Dr. Louis I. Dublin separately conclude that, taking the community as a whole, we are justified in estimating that not more than 2%, and not less than 1% of the population at any time need care and medical assistance because of heart disease. In the continental United States, Dublin believes that over two million persons of all ages are suffering from heart impairment.

Though we lack definite statistics regarding the age at which cardiac injury occurs in various diseases, we can draw certain definite inferences from our knowledge of infections and communicable diseases. The majority of such diseases occur in children before the age of 10, and a very large number before the age of 5. Rheumatic infections are only too frequent before 10 years of age, and the younger the child, the greater is the liability of inflammation in all three portions of the heart—the muscles, the valves, and the surrounding pericardial sac. Dr. S. Josephine Baker has drawn attention to the fact that school inspectors found in New York City that both boys and girls of 14 showed about twice as high an incidence of cardiac disease as at the age of 8.

Rheumatism is in greater measure the origin of heart disease in young people than all other causes combined; and up to 30 years of age, it is the chief cause of cardiac impairments. After 30 years, in middle life, syphilis acquired in youth and the early thirties usually produces its degenerative lesions in both blood vessels and heart, about twenty years after the primary infection. After middle life, the chronic processes produced by incessant reinfections, and the degenerative changes caused by unhealed chronic diseases and unhygienic living produce a rapid or slow breakdown of the heart and circulation.

The mortality tables of heart disease are full of meaning to those who study them. There are over 150,000 deaths in the United States each year credited to heart disease, and over 22,000 of these are under 45 years of age. But there are many deaths due to damaged hearts which pass credited to other causes (especially is this true of deaths from influenza), so that the real total is higher than that recorded.

One in every six or seven deaths is due to heart disease, although its greatest toll is taken in middle life and the later years. Dublin shows that between the ages of 5 to 9 years, deaths from heart disease are as frequent as from measles and whooping cough, causing, in fact, more deaths than any of the so-called children's diseases except diphtheria. In the latest period of childhood, from 10 to 14 years, the mortality from cardiac conditions is heavier than that from the four principal diseases of childhood combined.

Between 15 and 24 years, the deaths from heart disease are more numerous than from typhoid fever, and between 25 to 34 there are almost as many as from lobar pneumonia. Between 35 and 44, organic heart disease causes more deaths than Bright's disease; and after 45 years of age, heart disease shows a higher death rate than any other cause. We can measure the certainty with which cardiac disease takes its fatal toll, we can calculate the expectancy with which each human being may fall a victim to its injuries; but it gives us little of practical value, however, to realize that of all who reach 10 years of age, one fifth will die of heart dis-

ease, or that the chances at that age are three times greater of dying from heart disease than of tuberculosis. What we daily see and realize only too vividly, we cannot estimate: the amount of sickness, the long years of disability, of diminished effort, of economic loss, and curtailed earning powers; the breaking up of homes just beginning to develop their years of happy home life, the cutting off in the prime of life of young mothers, or the destruction of the family bread winner by the death of the father, all caused by the same calamity of heart disease.

The economic cost of heart disease we can visualize partially, but only partially. Dr. Robert H. Halsey has recently emphasized this aspect of the damage from cardiac diseases. Among the insured in the year 1923 in one company, 12% of all policies paid were on account of death from heart disease — a total of $7,691,000. This must be multiplied many times, when the number of large insurance companies is considered. Halsey also calculates that every additional year of life for an adult adds a net increase of $500 to the national wealth, and if the average age of death from heart disease is 56, when at that age there should be an expectancy of 17 more years of life, there is a yearly loss of at least $500,000,000 to the national wealth.

For every death from heart disease there are about ten living with damaged hearts. Many of these must be cared for by their families or by the community. In the special cardiac clinics in New York City, from data collected by the New York Heart Association, there were approximately 6,000 individuals attending the clinics per month. The cost of their care was shown to be $23,561. A proper social-service and medical follow-up with dispensary care costs approximately $15 per patient per year, or $88,500 for the group, to receive adequate care. In ten hospitals in New York, the cardiac patients required 236,047 hospital days, or 9.35% of all hospital days at these hospitals, although representing but 4.58% of all patients. The total cost for the hospital care of these patients was $607,280. Those heart patients who were accepted in the convalescent homes cost for the year $156,591.

The total annual cost, therefore, for the heart patients who reach dispensaries, hospitals, and convalescent homes mounts to the sum of $787,432 for one year. But this does not begin to express the total annual cost of heart disease to the City of New York. If this is the incomplete bill of one city, what must be the total annual cost of the care of cardiac patients for all the cities throughout the United States and Canada?

Is all this loss and damage by heart disease preventable? Yes, in a great measure. Is heart disease, then, preventable? Yes, especially in the early and middle years of life, if the proper steps of preventive medicine are carried out. Is heart disease communicable? Directly no, indirectly yes. If once acquired, is heart disease curable? Like all other diseases in some cases yes, in others, no. It is most amenable to care at all ages, and in early life the recuperative powers of youth will often astonish the most skeptical with their extraordinary power of repairing damage to cardiac tissues. The damages of syphilis are among the most amenable of injuries under well-understood methods of treatment.

How is heart disease preventable? First and foremost, by continuing with wider application, through the various departments of health, measures for the control and eradication of the communicable diseases and especially the so-called childrens' diseases such as scarlet fever, diphtheria, measles, mumps, and whooping cough. This means more hospitals for communicable diseases. We cannot teach prevention and isolation of the infected without having the hospital facilities to carry out the very care we insist upon. Prevention fails if opportunity is denied to carry out its essential details. This also means the education of the medical profession and the lay population in the more extended use of diphtheria antitoxin, and in the wider application of prevention through the Schick test and the use of toxin-antitoxin. In scarlet fever, the work of the Dicks and of Dochez shows that there is also an effective specific serum against this disease, but to popularize its use will require education to overcome the same ignorance and prejudice in the medical profession and lay public as it did with diphtheria.

Rheumatism is preventable if we realize that the chief points of its entry into the body are through decayed and abscessed teeth, and through diseased and abscessed tonsils. These foci of infection are at all ages sources of danger to the heart, and up to 30 years of age form the main sources of rheumatic infection. Incessant care of the teeth, therefore, and watchful supervision of the tonsils, especially in children and young persons, will alone diminish the occurrence of rheumatism. This does not mean that every tonsil should be taken out, but it does mean that no tonsil is above suspicion, and that it is not in the size of the tonsil that the danger lies, but in the contents of its crypts and abscesses.

The growth of children does not produce pain: the growing pains of children are naught but the growing menace of rheumatism, and should be treated accordingly. Is every case of tonsillitis preventable? No, but its spread to the rest of the family is prevented by the isolation of the unfortunate patient, with immediate care, and not by the contemptuous neglect of such a slight sickness. Dr. George W. Norris well puts the usual sequence of events as a bad cold, tonsillitis, inflammatory rheumatism, inflammation of the heart, and valvular heart disease. A bad cold can be prevented from spreading to tonsillitis in an individual, and from that person to others in the house by rest in bed and proper care, and such slight ailments should never be neglected.

Thus, these measures of prevention show how indirectly heart disease is a communicable infection. In this indirect sense only can heart disease be transmitted from one person to another by the communication of the various general infections of which cardiac involvement is a sequence. When once the idea of communicability is established, however, it will need very careful education to prevent the idea from spreading abroad that cardiac diseases are *directly* communicable. There will undoubtedly occur instances in which some invalid cardiac will be shunned as directly spreading his heart disease and its invalidism. Some unhappy children with cardiac disease will be rendered more miserable, because the careful but misinformed parents of the neighborhood will place a taboo upon them lest their own children become directly infected.

Can heart disease, when once established, be cured? Assuredly so, and many young persons have scars on their heart valves, and yet live an active vigorous life, and go on to their three score years and ten of existence. But the great danger to the damaged heart, when once it has recovered from the attack of sickness in which it was injured and is again in good condition, is not the physical and mental strains of life, but the constant danger of reinfection (with added injury thereby to the cardiac muscles from a second attack of the original infection) or of damage from some intercurrent infection.

The so-called chronic rheumatism in heart disease is only the incessant attacks of infection following each other so closely that recovery cannot occur between attacks. In later years of life, the chronic degenerations of the heart are in most cases but manifestations of myocardial injuries from chronic bodily infections, and the frequent cardiac breakdowns but instances of a slight acute infection adding its overload to the damaged heart.

The prevention of heart disease, therefore, resolves itself into a never-ceasing struggle to prevent the occurrence of various infections in the body, and the care of, rather than the neglect of, many slight sicknesses which today it is our habit to ignore.

Many early injuries to hearts can be successfully limited or cured if recognized early, and serious damage prevented. This means careful and repeated checking up of the individual, and no real prevention of heart disease will be successfully accomplished until the regular routine annual examination of all members in the community is regularly performed. This today seems impossible, but the results already obtained show the high rate of value received therefrom. In the industrial department of an insurance company, annual examinations of a group of its insured were undertaken; and it has been shown that over a period of five years, the group examined had a 28% more favorable mortality as compared with the entire department for the same years, and gave a return of two dollars for every dollar expended. Can any one find a better investment in health and increased length of life? Your Society does well to place annual examination in its program of preventive medicine; it is the public-health measure of all others which promises the largest and most immediate returns.

As already indicated, the successful crusade against tuberculosis has served as a model for the work to be done in the prevention of heart disease. During the past few years, in New York, Philadelphia, Boston, Chicago, Indianapolis, and other cities, there have been established associations for the prevention and relief of heart disease. The objects of these associations have been to gather information upon heart disease, to develop and apply measures for prevention, to provide occupations suitable for cardiac patients, to promote special dispensary classes, better hospital care, and improved opportunities for convalescent care, to encourage the establishment of similar associations, and to maintain a central office and clearing house. These associations, formed of laymen and physicians, have already succeeded in ameliorating greatly the working conditions for cardiacs, and improving their economic opportunities. They have also largely succeeded in removing the idea of universal invalidism among cardiacs, showing that some can, by reasonable living, be unhampered by their heart lesions, while others, by change of occupation, can be economically independent, although others are invalids, needing constant care and attention. They have also succeeded in showing that hearts improve by prop-

erly limited exercise of their active functions; that is, each heart improves when it is made to do what it physically is capable of doing, and deteriorates unless by some physical exertion its muscles are kept in condition. They have done much to remove from the mind of the cardiac patient that overpowering curse, the ever-present fear of sudden and immediate death. Formerly, in the lay mind, almost universally with the verdict of heart disease went the sentence of immediate and sudden death. Now, even the lay mind begins to realize that the luxury of sudden death will be granted to but few even among the sufferers from heart disease, and it is not sudden death they face but living with crippled powers, often deprived of the full exercise of their ability, with a slow and lingering ebbing of their lives.

The benefit of these associations has been so apparent that last year a National Heart Association was incorporated to assist laymen and physicians in smaller communities than those in which the heart associations were formed, and to assist the various associations in their mutual exchange of information obtained.

The campaign for the prevention of heart disease is therefore well launched, and among its active workers are many members of your own Society. We cannot expect, for the next twenty years, to see much diminution in the mortality from heart disease, but we shall see in a few years an increase in our knowledge of cardiac impairment, the application of which will improve enormously our control and care of heart disease. Long before our statistical records show an improvement, therefore, we shall be able to lessen some of the economic loss, and diminish the sum total of human sorrow, unhappiness, and misery caused today by heart disease; and that, after all, is among the achievements in life that are really worth while.

43 E. 72d St.

EXTRACTION OF TEETH

The practice of extracting all diseased teeth at one time should be discontinued in certain cases, as it sometimes results in death or severe illness. Results are more satisfactory if the operation is performed in two steps a few days or a week apart, depending on the patient's reaction. Those teeth in the most accessible quarter of the mouth and those which are most easily extracted should be removed first, in order that the patient may be benefited by the therapeutic reaction and his morale maintained.

Patients who are acutely ill before seeking relief should be put to bed and treated medically before the extraction of their affected teeth is attempted. Their symptoms should be carefully observed and examinations made to rule out any mistakes in the diagnosis of their conditions.—B. S. GARDNER in *Dental Cosmos.*

*SYMPOSIUM ON RECENT INNOVATIONS IN DIAGNOSIS**

THE PRESENT STATUS OF FUNCTIONAL TESTS OF THE LIVER†

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Interest in the disturbance of the normal mechanism of the liver by disease has been augmented by increasing knowledge of the normal physiologic activity of this organ. The liver, we know, has various functions, and it is improbable that in disease all physiologic activities are equally impaired. For this reason, care must be exercised in the interpretation of any single functional test in its application to total liver efficiency. The study of the function of the liver in health or disease is a most difficult problem because of its various activities in metabolism and the probable participation of other organs in these same processes. We do not definitely and thoroughly understand any one function of the liver, and it is not surprising that so many methods for evaluating hepatic efficiency have appeared in the literature in recent years. It is unlikely that any single test which will give accurate information as to total liver function can be devised, although one that most nearly approaches this, and one that is simple and practical, is desirable. In the study of the liver in disease, indications of early impairment are sought, and such information cannot be gained by purely clinical examination. It is the purpose of this paper to review briefly the most important methods in use at present for estimating liver function, and to evaluate their relative clinical importance in the diagnosis of hepatic disease.

HEMOCLASTIC CRISIS

The hemoclastic-crisis test of Widal has been advocated as a method for the study of liver dysfunction. This test, in disease, is theoretically based on interference with the normal physiologic action of the liver on the digested proteins, the entrance of the protein-split products into the circulation, and the production of an anaphylactic reaction (hemoclastic crisis), as evidenced by a leukopenia and other manifestations. The proteopexic function is supposedly impaired in liver disease, so that a hemoclastic crisis appears after the ingestion of a protein meal. We have used the simple technic of giving 200 c.c. of milk to the patient after an all-night fast, having made

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a leukocyte count before the ingestion of the protein, and repeating the count afterwards at twenty-minute intervals for one hour.

In our clinic, a large number of normal individuals, patients apparently free from any liver disease, and a large group of cases where the liver has been definitely diseased, have been carefully observed in regard to the hemoclastic-crisis test. We have come to the conclusion that the test is of no practical value in the diagnosis of hepatic disorders, either early or late, as leukopenia is seen in both health and disease. Shaw[1] has well brought out the important fact that during physiologic rest the number of leukocytes in the peripheral blood is subject to considerable and rapid fluctuation, though there are phases in which a state of equilibrium exists. He believes "the phenomena of 'digestion leukocytosis' and 'digestion leukopenia' are simply physiological variations, and that the conflicting conclusions as to the value of the hemoclastic-crisis test arise from a failure to recognize that normally the leukocyte count is in a state of flux." It is logical to question the clinical value of this test in the diagnosis of liver disease.

Dye Tests

The use of certain dyes, particularly phenoltetrachlorphthalein, as a means of estimating hepatic efficiency has brought forth many interesting observations. The work of Abel and Rowntree[2] showed that this dye, when given intravenously or subcutaneously in animals, was excreted only in the bile, and this specificity of excretion made possible the study of liver function in a new way. At first, the amount of dye excreted in the stool was measured quantitatively, but this proved an unsatisfactory method. The duodenal-tube method of noting the first appearance of the dye and the amount excreted was a marked improvement in technic, but the question of total bile recovery by the tube always confronted one, and made uncertain the total quantitative excretion of the dye. Further, it seemed to us that the duodenal-tube method was more difficult and trying to the patient than the method brought out later by Rosenthal,[3] who suggested measuring the amount of phenoltetrachlorphthalein retained in the blood or, in other words, the rate of removal of the dye from the blood stream by the liver. This method of estimation of the dye excretion is now the one of choice, although some minor modifications have been made in the test. We have continued to use 5 mg. of the dye for each kilogram of body weight, injecting the dye diluted with salt solution or distilled water, and collecting blood samples at fifteen minutes, one hour, and two hours. Greene, Snell, and Walters[4] have still further simplified the administration of the dye by slowly injecting the total amount undiluted, thus avoiding the use of a gravity method or a three-way stopcock.

The use of permanent standards for comparison has also greatly simplified the technic of the test and added to its accuracy. We record the dye retention according to Rosenthal's original method of reading the percentage from an assumed initial concentration, and consider the one-hour reading the most important for comparison, although the concentration at the first reading and the speed of removal from the circulation are of most significance when estimating the excretory ability of the liver in a single case. In our opinion, the quantitative estimation of the output of dye in the urine is practically valueless, as renal excretion depends on the activity of the kidneys, and, with disturbance of both renal and hepatic function, there could be no actual comparison between the dye excreted in the urine and that retained in the blood.

Other dyes, as bromsulphthalein, azorubin-S, and rose bengal, have been used for measuring liver function. The first of these gives promise of being most valuable in this type of investigation. Rosenthal and White[5] report favorable results with the use of bromsulphthalein as a test for hepatic efficiency, concluding, after thorough investigation, that this dye, whose physiologic properties are closely akin to those of phenoltetrachlorphthalein, is superior to the latter for clinical use, as it circulates in the blood in a soluble form, is nontoxic in the low dosage required, and is specifically handled by the liver. Furthermore, this dye is a more sensitive indicator, as it is removed from the blood stream less rapidly than tetrachlorphthalein. Bromsulphthalein gives promise of being valuable in the investigation of liver efficiency by the dye method.

It has been shown both experimentally and clinically that the tetrachlorphthalein test affords a fair quantitative measurement of the degree of impaired function of the liver. As the dye is excreted specifically by the liver, abnormal retention in the blood stream after a properly performed test indicates hepatic disturbance. The test is not of value in detecting early liver disease, but opens a new field for the investigation of early changes in the liver. From postmortem observations of definitely diseased livers, where antemortem there had been no dye retention, we believe that negative tests do not exclude the presence of hepatic pathology. Even though this test certainly only investigates one particular function of the liver, and its limitations need to

be recognized, it is a valuable adjunct to our diagnostic procedures.

Bile Metabolism

Inasmuch as the liver is concerned with the formation and excretion of the bile, and there is often evidence of bile retention in various hepatic diseases, it is important to study the bile pigments in their relation to liver function. We are not especially concerned in this survey with the origin of the bile constituents, although it is becoming more evident that the pigments are created in extrahepatic tissues and organs, and that the liver is largely concerned with the formation of the bile salts. We are more interested in the liver as an excretory organ, especially in regard to bilirubin, and believe that interference with this particular function denotes lowered hepatic efficiency. Mann and Bollman,[6] and Rous and McMaster[7] have pointed out that with a ligated common duct in dogs, an intact gall-bladder will, because of its concentrating ability, help prevent for a time a rise in the duct pressure, and also delay hepatic injury due to damming back of the bile. Therefore, even in obstruction by stone in the common duct there is actually more to consider than excretion of the bile. The factors of resorption of the bile and its effect on the liver cells, and of the physiologic fitness of the various constituents of the hepatic system, are important.

Van den Bergh showed that normally there exists in the blood serum a small amount of bilirubin, and his investigations of pigment metabolism have added greatly to our knowledge of hepatic disturbances. At the present time, the van den Bergh test, as fully described by McNee[8] or minor modifications of it, is the method of choice in studying the bilirubin of the blood. So much has appeared in the literature concerning the principles underlying the van den Bergh test that it is unnecessary to review them here, nor to discuss the advantages of the test over other ones for the estimation of the bilirubin in the blood serum. The advantages are already well known. The test is valuable clinically because latent jaundice can be detected, and thus, early hepatic disturbances can be recognized; also the degree of jaundice can be determined quantitatively. The value of the test in differentiating jaundice due to damage to parenchyma from other types of icterus is doubtful.

Another commonly used method for the study of bilirubin in the blood serum is the icterus index.[9] This index is based on a standard of 1:10,000 solution of potassium bichromate, a colorimetric comparison being made between the unknown serum and the known standard. The icterus-index test will give an accurate estimation of the degree of bilirubinemia where there is definite jaundice, but small amounts of other pigments in the blood, as xanthophyll, or slight hemolysis, will interfere with the comparison where there is little bilirubin in the serum. In our opinion, the icterus-index method offers no advantages over the van den Bergh test in the study of the bilirubin of the blood, and because it does not permit of any chemical recognition of the pigment, it is less advantageous and less reliable.

The metabolism of urobilin and its disturbance offers some interesting possibilities in the study of liver function. The origin of the pigment and its significance have long been problematical. Furthermore, the failure of all methods for the exact quantitation of the pigment has hindered the study of this very important substance in relation to liver function. Recently, McMaster and Elman[10] have devised a simple method for the quantitative determination of urobilin, and they claim for it a sufficient degree of accuracy for experimental or clinical use. In further experimentation, they have proved that the existence of urobilin in the stool, and in the bile, under normal conditions depends on the delivery of bilirubin to the intestine. Their findings indicate an absorption of urobilin from the intestine and its secretion into the bile by the liver. McMaster and Rous[11] have shown that in animals, over 80 per cent of the liver can be obstructed before bilirubinuria will occur. Elman and McMaster believe that with urobilin the margin is less, and have demonstrated that urobilinuria occurs with local obstruction of one third of the liver. The evidence points to urobilinuria as a valuable finding, indicating the inability of the hepatic cells to take out of the circulation the urobilin conveyed by the portal blood, and further, that urobilin in the urine is seen with a less degree of liver damage than bilirubinuria. This valuable experimental work has opened up a new field in the investigation of liver derangements, and it will be interesting to see the results of the study of various clinical types of hepatic disease. It is a field worth investigating.

The study of the bile-salt metabolism brings out further possibilities in the investigation of liver disease. The problem of dissociated jaundice has given an impetus to the work on bile salts, and much effort has been made to devise an accurate method of quantitation for these particular bile constituents. To date, no precise method for estimating small amounts of bile acid in the urine and blood has been brought out, and until such a method is devised, the relation of

bile salts to normal and disturbed liver function will remain unsolved. Dissociated jaundice and its relation to liver disease is another field of importance for investigation. The work here is just beginning. At present, with unsatisfactory methods of quantitation and insufficient knowledge of the metabolism of bile salts, their estimation is of no clinical importance, especially in regard to liver function.

Protein Metabolism

Numerous studies of the nitrogen partition in the blood and urine in relation to hepatic disorders have been made. The exact status of the liver in protein metabolism is not understood, but experimental evidence points to this organ as an important seat of urea formation. It is supposed to be most active in the conversion of the amino-acids into this latter substance, and from the results of Mann's[12] studies, it appears that the formation of urea in the body is absolutely dependent on the presence of the liver. He points out that with removal of the liver in animals, there is a gradual decrease in the blood urea, with usually a slight increase in the amino-acids and nonprotein nitrogen. Other experimental work[13] has suggested a decreased urea nitrogen of blood in proportion to the total nonprotein nitrogen as indicative of liver disturbance. This latter observation has been confirmed by others in clinical studies of liver disease, although the results have never been constant or definite enough to warrant clinical acceptance. Always in such observations the problem of kidney efficiency or insufficiency arises, and certainly this has an important bearing on any deductions made.

Many observations on the relative percentage of urea and ammonia in the urine in disease of the liver have been undertaken. Where there is marked destruction of the liver tissue, experimentally the relative amount of ammonia excretion may be greatly increased and the urea excretion decreased. Clinically, in acute yellow atrophy of the liver, the nitrogen excretion may rise quite high in ratio to the urea, but in less severe forms of hepatic disease the changes are not usually so marked. The increased ammonia output in the urine could be caused by the formation of acids in the body that require ammonia for their neutralization, so that one should be very careful in making deductions concerning the possibility of liver disease. More experimentation will be necessary before the relation of protein metabolism to the function of the liver is understood sufficiently to form any opinion as to hepatic insufficiency in disease.

Carbohydrate Metabolism

A very important function of the liver is concerned with carbohydrate metabolism; namely, the conversion and storage of glycogen. Different investigators have endeavored to show evidence of disturbed glycogenic activity in disease of the liver; and for many years, various tests of carbohydrate tolerance have come and gone. The only sugar that has in any way been satisfactory for clinical tolerance tests is levulose. Sachs, in observing the tolerance to various sugars in hepatectomized frogs, showed that all sugars except levulose were converted into glycogen, thus demonstrating that extrahepatic organs have the power of conversion and storage of glycogen. Following the above experimental work, Strauss[14] in 1901 formulated a test for hepatic function by the estimation of the levulose tolerance. He considered the appearance of levulose in the urine, after the ingestion of 100 grams of this sugar on a fasting stomach, indicative of liver disease. Various workers have investigated the Strauss test, and for the most part have discarded it as of no practical value because of the possibilities of a levulosuria from impurities in the sugar, from overingestion, from lowered renal thresholds, and from other influences such as endocrine and neurogenic disorders.

MacLean and de Wesselow[15] stimulated interest in the levulose-tolerance test by observations on the blood-sugar curves of normal adults after the ingestion of various sugars. All of the sugars except levulose produced a definite rise in the blood-sugar curve. This work followed the introduction of satisfactory quantitative methods for the estimation of sugar in the blood. Spence and Brett[16] found that 50 grams of levulose administered orally produced no rise in the blood sugar in normal individuals, and that more than 50 grams was apt to cause an alimentary levulosuria, as a normal liver had definite limitations of sugar storage. They believed the normal liver able to convert and store 50 grams of levulose, but that with a damaged liver this amount could not be converted and stored, and the excess would appear in the blood. Bodansky,[17] in experimental work on dogs, has estimated their normal tolerance for the various sugars, and found that levulose provoked the slightest rise in the blood-sugar curve and galactose the greatest rise. Experimentally producing liver injury and using the levulose tolerance test to determine the degree of liver damage, he came to the conclusion that this method was quite useful, as proved by the pathology present at postmortem examination of

the experimental animals. From our own observations and from those of others, we believe the levulose-tolerance test to be of little value in the clinical study of liver disease. A positive rise in the blood-sugar curve after the ingestion of 30 to 50 grams of levulose following a twelve- to fifteen-hour fast is suggestive of disturbed liver function, but extrahepatic factors may so influence the curve as to make it valueless as an index of functional change in the liver. Positive curves are frequently seen where there is no evidence of hepatic injury, and the variations in normal individuals are at times quite marked.

Conjugation Tests

It is thought that the liver has a detoxification function. Toxic substances such as the aromatic radicals produced by the decomposition of protein are supposedly oxidized or conjugated in the liver with sulphuric or glycuronic acid and excreted as inert bodies. The conversion of indol, which is formed from tryptophan, into indoxyl, and the conjugation of the latter product with sulphuric acid to form indoxyl-sulphuric acid, a nontoxic substance, is an example of this phenomenon. The detoxification of benzoic acid by the synthesis of this acid with glycocoll to form hippuric acid has been also attributed to the liver. Toxinemia is thus prevented by this process of conjugation or oxidation of indol, phenol, benzoic acid, and like toxic substances.

Various investigators have attempted to obtain evidence of liver derangement by the study of the detoxifying power of the organism. Roger made the glycuronic conjugation in the liver a basis for the study of liver function. The results of his studies were confirmed by Gautier, who found that the glycuronic-acid content of the urine was marked in healthy individuals, and that a dose of camphor produced only a slight increase, if any, in the glycuronuria. With hepatic insufficiency, he noted a definite, transient elimination of the glycuronic acid after the dose of camphor. Roger and Chiray,[18] who estimated the glycuronic-acid excretion after a test dose of camphor, reported favorable results with the test. They believed that conjugation was diminished in individuals with liver disease. Other investigators have disagreed on the value of the test, and similar ones, in the detection of liver insufficiency. In view of the variable opinions concerning the mechanism of conjugation, the uncertainty of the site of the detoxification, and the conflicting reports as to the clinical value of this type of test, we believe it best to rely on more dependable and exact methods for the detection of liver derangements. More knowledge of the physiology of detoxification will be necessary before conjugation tests can be of value in the clinical study of liver disease.

Summary

The phenoltetrachlorphthalein or similar dye tests and the serum-bilirubin estimation according to the method of van den Bergh are of proven clinical value in the study of hepatic disease. The limitations of the phenoltetrachlorphthalein test should be recognized. It has been shown that with obstructive jaundice the dye retention usually parallels the degree of bilirubinemia, so that in this type of case it is useless to do the dye test. The dye test is indicated, then, only in nonobstructive cases. The ideal test for the functional capacity of the liver would be one that showed quantitatively disturbances of physiologic function. In view of the importance of the liver in carbohydrate metabolism, the tolerance tests should be of value, but up to the present time, the methods for estimating the carbohydrate function of the liver have been disappointing. This is a problem for the physiologist. The metabolism of urobilin and its relation to the functional efficiency of the liver brings out many possibilities in the study of liver disease. It is not unlikely that urobilin may be used in the future as a valuable means of estimating one type of liver function.

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X-RAY DIAGNOSIS OF DISEASES OF THE LIVER AND GALL BLADDER

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Roentgenograms of the liver area will show the size and contour of the liver, but with our present knowledge it is not possible to demonstrate pathology by any change in its structure

or density. For this reason, little information can be obtained regarding many of the commoner diseases such as cirrhosis, acute yellow atrophy, cholangitis, infarct, abscess, cyst of the liver, etc. It is true that some of these conditions cause a change in the size of the liver and this can be demonstrated. However, this is usually easily recognized clinically, and the x-ray negative reveals only something already known. In syphilis and in metastatic carcinoma there may be large nodules on the surface of the liver, and this alteration in the contour may suggest the diagnosis.

The contour of the liver is much more clearly outlined by the use of pneumoperitoneum. The gas which has been injected into the peritoneum will, of course, rise to the highest point. By placing the patient in different positions, the gas accumulates between the liver and the surrounding structures, and thus makes a transparent area contiguous to the different surfaces of the liver. In this way, the contour of the liver is sharply outlined and changes noted. An enlargement of the liver is manifested by a downward extension of the lower border. An upward extension of the liver shadow is actually an upward displacement of the diaphragm, and usually indicates pathology between the liver and diaphragm rather than of the liver itself. This pathology is commonly a subdiaphragmatic abscess, although a large and rapidly growing cyst or abscess in the liver may produce this effect. The diagnosis of subphrenic abscess is often very difficult, either clinically or roentgenologically. The x-ray signs are an upward displacement, with fixation of the right diaphragm. The same signs are found in tumor of this region, fixation of the diaphragm following an old pleurisy, or encysted fluid or pus between the base of the right lung and the diaphragm.

It is often difficult to differentiate between these conditions. Artificial pneumoperitoneum will differentiate conditions below from those above the diaphragm if it is considered safe to use it. There might be danger in its use where pus is safely walled off, if the distention from the gas could break up adhesions and tend to spread the infection. I have seen a large tumor of the right kidney mistaken for subdiaphragmatic abscess, operated upon, a certain amount of puslike material evacuated, and the true condition entirely appreciated only at autopsy.

The Gall Bladder

The diseases involving this organ which may be recognized by x-ray are cholelithiasis and cholecystitis. These may occur in conjunction with or independently of each other, and there are x-ray signs which are common to both.

Considering first the diagnosis of gall stones, we have what may be called the direct and the indirect x-ray signs. The direct signs are the presence of shadows on the plate made by the stones. The indirect signs are the reflex spasmodic changes which occur in the pyloric end of the stomach and in the duodenum, and deformities or fixation of these structures caused by adhesions between them and the gall bladder.



Fig. 1. Artificial pneumoperitoneum brings out the contour of the liver more distinctly.

Gall stones may or may not cast a shadow on the x-ray plate. The question as to the percentage which can be shown has created considerable discussion from time to time. It will serve no useful purpose to consider this point in detail here. Suffice it to say that if gall stones do not show, it is from one of two reasons—either there is not enough mineral content in the stone to cast a shadow, or the plate is not of sufficient excellence to show them. The technical reasons for a poor plate will not be discussed, but assuming that the technic is perfect,

I believe many of the failures may be attributed to motion in the gall bladder. This motion may come from respiration, peristalsis in the stomach or intestines, or there may possibly be a peristaltic action in the gall bladder itself. The only way to overcome it seems to be to make the exposure as short as possible, and to make a large number of plates in the hope of getting one or more when there is no motion.

There are three different types of gall-stone shadows: (1) The large, opaque, usually solitary stone. These are easily seen. They have an appearance very similar to kidney stones, and the differentiation is often difficult. (2) The symmetrically shaped, faceted stones. These are usually large, the cortex is more dense than the interior, and for that reason the stone appears to have a dense rim around it, the shadow appearing as a ring. The manner in which the stones articulate with each other is usually easily recognized. (3) The gall bladder is filled with a great number of small stones. The entire gall-bladder area is opaque, the shadow having a mottled appearance. Sometimes the shadows of individual stones can be made out; at others, the appearance is simply an irregular opacity corresponding to the size, shape, and location of the gall bladder.

In a general way, the three types of shadows just described are the direct evidence of gall stones. They are not always easily demonstrated, and sometimes are not recognized when present. The shadows are apt to be faint, and if the slightest amount of motion has occurred, indefinite. It is often necessary to confirm these shadows by the indirect x-ray signs as well as the clinical evidence, in order to make a reasonably positive diagnosis.

The indirect x-ray evidence of gall stones is elicited by the use of a barium meal and examination of the stomach, pylorus, and duodenum. The signs are the same for cholecystitis, and the two cannot be differentiated in this manner. As a matter of fact, it is probable that these findings are due to cholecystitis which, of course, usually accompanies calculi. In a case of lithiasis without inflammation, it is possible that these indirect signs may be absent. I do not know of any work which has been done to determine this point. The indirect signs of gall-bladder disease are pylorospasm, spasm of the pyloric antrum and first portion of the duodenum, and evidence of adhesions between the gall bladder and duodenum or stomach.

Pylorospasm is recognized by an irregular and insufficient relaxation of the pylorus in the presence of normal or overactive peristalsis. Many peristaltic waves come up to the pylorus, but little food gets through. When the pylorus does open, only small quantities get through at a time, so that the first portion of the duodenum is very small and incompletely filled. It may be small and smooth in contour, or small and with many shallow ragged indentations. These indentations are not always identical in size and position, as are the deformities caused by cicatrization from ulcer, or by traction from adhesions. If watched for a time, this pylorospasm usually disappears, the stomach empties normally, and the duodenum fills up and is perfect in contour. If it does not, the administration of belladonna to physiological effect will relax the pylorus, and at a second examination the conditions will be normal.

The spasmodic indentations on the pyloric antrum and first portion of the duodenum will also disappear after belladonna. Adhesions between the gall bladder and duodenum or stomach



Fig. 2. Very high right diaphragm accompanying subphrenic abscess.

cause deformities in contour in the latter structures which have practically the same appearance as those caused by ulcer. These deformities do not disappear after the administration of belladonna. They are usually accompanied by fixation, which is demonstrated by palpation under the fluoroscope.

The differentiation between gall-bladder adhesions and duodenal ulcer is often difficult or impossible. Probably, the principal diagnostic point is abnormal retention of the meal in the stomach, which is common in ulcer but rather rare in gall-bladder disease. It must be borne in mind that adhesions to the gall bladder are not uncommon to duodenal ulcer also, so that even at operation it is very difficult to tell which organ is the seat of the primary pathology. Under such circumstances, little blame can be attached to the x-ray for failure in differentiations between adhesions due to cholecystitis and those from duodenal ulcer.

CHOLECYSTOGRAPHY

This procedure was introduced by Drs. Graham, Cole, and Copher of St. Louis a little less than two years ago. It consists in the administration of a compound of phenolphthalein (sodium tetraiodophenolphthalein) which has the property of rendering the bile opaque to the x-ray. This drug may be given intravenously or by mouth. By the former method, the effect is produced more quickly, and the shadows are more opaque than by the intra-oral method. It has the disadvantage of being a surgical procedure, which, of course, is more trouble to the patient, and it is not without danger of a rather unpleasant reaction. There are no unpleasant effects following the intra-oral administration, except an occasional diarrhea.

If given by mouth, the drug must be administered in such a way that it will not be absorbed in the stomach. This is generally accomplished by using pills or capsules coated with salol or keratin, or by introducing the drug into the jejunum through a duodenal tube. The writer has had very good results from the use of salol-coated pills. The drug must be administered on a fasting stomach, whether given intravenously or intra-orally, and no food must be taken until the required x-ray negatives are made. The taking of food causes the gall bladder to empty itself, and if this is done before the radiograms are made, the drug-stained bile will be evacuated and no shadow will result. The gall bladder is very distinctly outlined by this procedure, the shadow being comparable to that cast by the kidney pelvis. The method has not been in use for a sufficient time to comprehend all its possibilities.

Gross deformities in contour may occur where adhesions or bands are stretched across the gall bladder. However, many cases of adhesions have been found which have caused no deformity in outline. It would seem probable that pathology will be discovered by this method more by changes in function than by changes in the appearance of the gall bladder. It is now known that one of the principal functions of this organ is to concentrate the bile. Graham has shown in his work that the concentration of the phenolphthalein in the gall bladder is many times what it is in the bile which is in the liver itself. In disease of the gall bladder, its capacity for concentration is lessened, and therefore the shadow is less dense than normal, or else it takes a longer time for the shadow to appear.

Sosman and others have shown that the gall bladder begins to empty itself immediately after food is taken, and that the rapidity of evacuation depends largely upon the character of the food. Thus, after the ingestion of fats the discharge is very rapid, but after carbohydrates very much slower. Further investigation along this line may lead to the solution of some of our present obscure problems of indigestion. It has been found that the emptying of the gall bladder is retarded in gall-bladder disease. Where the organ is normal, the shadow will be decreased to half its size or less if the patient is allowed to eat a hearty meal, and exposures are made immediately afterward. In disease of the gall bladder, however, the emptying is much slower, and the shadow may persist for a day or two. With our present knowledge, the indications of gall-bladder disease seem to be a delayed appearance or faintness of the shadow, or a persistence of the shadow beyond the time when it is usually gone.

When gall stones are present, the shadow is apt to be faint, probably because there is usually

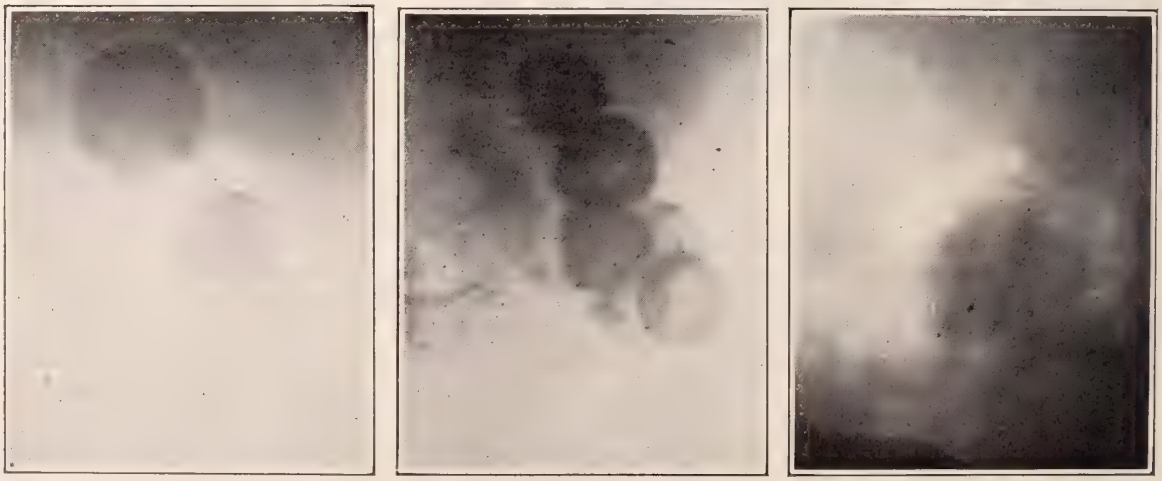


Fig. 3. Three common types of gall stones.

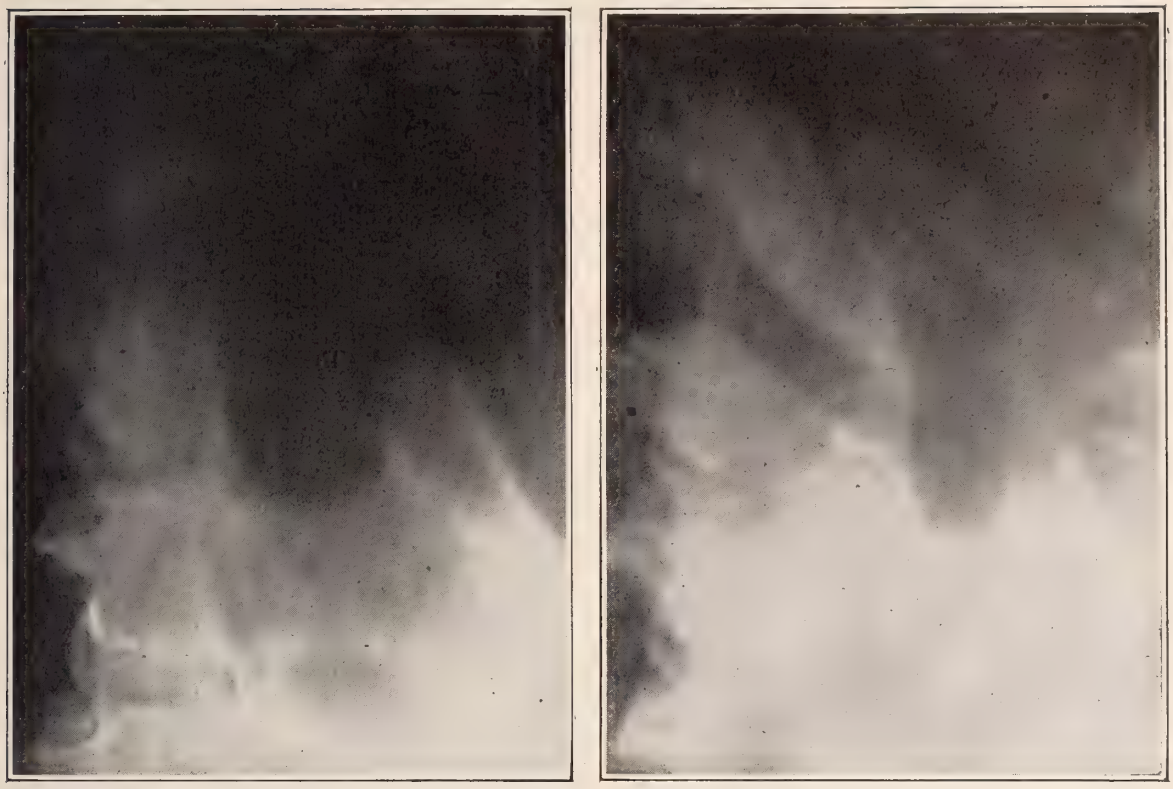


Fig. 4. Cholecystogram of normal gall bladder before and after the patient takes food.

an inflammatory condition present also. Occasionally, however, the bile will be quite opaque, and the stones themselves will appear as negative shadows. This is because the stones are much less dense than the bile which they displace and by which they are surrounded. Occasionally, after the dye-stained bile is evacuated, stones previously transparent will have acquired an opaque coating which renders them visible. If a stone is blocking the cystic duct, or if it is obliterated from other pathology, there will, of course, be no gall-bladder shadow present at all. If one is entirely certain of his technic, absence of shadow can be accepted as an indication of pathology.

In the short time since this method was made public, it has come into almost universal use, both in this country and abroad. The time is far too short yet to have any idea of its possibilities, but it seems certain that it is destined to rank as one of our most important diagnostic procedures.

THE SIGNIFICANCE OF BILE PIGMENT†

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During the past few years a great deal of attention has been directed to the study of liver problems, with the result that a considerable amount of knowledge hitherto undiscovered has been brought forward. To this work the experimental physiologist and pathologist have really made the most outstanding contributions. This is particularly true with reference to the study of bile pigment, and it is this phase of liver function that we wish to discuss herein.

One might almost say that in experimental and clinical research the liver appears to be taking the place occupied by the kidney in the past, and, from the results so far attained, it is not improbable that many of the older ideas of liver function and disease may be considerably altered. We are beginning to realize how sparse was our exact knowledge of bilirubin, especially of its formation and its normal relation to the liver. When we consider the clinical value of the abnormal presence of bilirubin, it seems rather strange that so little has been known of its physiology, its origin from liver cells having been accepted as fact. Therefore, in attempting to gain some idea of the bile function of the liver, it is necessary for us to review the work that has been done in recent years in the study of the origin, excretion, and nature of bilirubin.

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Among those who have been associated with this problem most actively are Whipple and Hooper, Rous and McMaster, Mann and his coworkers, Rich, van den Bergh, Muelengraht, McNee, Blankenhorn, and others. There are many points still in doubt, but, as a present working conception, the following facts appear to be fairly well established. The future, however, will probably bring further changes, and what appears to be the correct interpretation today may not prove tomorrow to be so.

Bile pigment is a derivative of hemoglobin, and is formed only from this substance. According to Rich and Bumstead, the pigment hematoidin, the iron-free derivative of hemoglobin, cannot be differentiated by any known physical or chemical reaction from bilirubin. The introduction of hemoglobin into the circulation causes an increase of bilirubin excretion, and in many diseases where there is a breaking down of blood, as in pernicious anemia and certain septicemias, a corresponding increase in bile pigment is found. Recently, Rous and McMaster have clearly established the relationship between the liberation of hemoglobin and the amount of bilirubin, the latter increasing or decreasing according to the amount of hemoglobin broken down. These writers differ from Whipple, who believes that this quantitative relationship between hemoglobin and bilirubin does not exist.

Are the epithelial cells of the liver concerned in the formation of bile pigment? According to the statement made by Rich in his very complete review of this subject, it is quite unlikely that the liver cells have any part to play in the production of bilirubin. That they have the power to take up bile from the circulation and store it for later excretion is, however, evident. In a condition such as acute yellow atrophy of the liver, where a great part of the liver cellular tissue is destroyed, one sees the evidence of excessive bilirubin throughout the tissues of the body, thus indicating that, if this pigment is formed by liver cells, it should, under these conditions, be diminished in amount rather than increased. A certain amount of bilirubin appears to be a normal constituent of the blood plasma, and with the aid of more sensitive tests can be demonstrated. This fact, chiefly brought out by the work of van den Bergh, is one of the most valuable contributions that has been made to the clinical study of bile. If one thinks of bile pigment in the same sense as urea, and also compares the excretory action of the kidney for urea to that of the liver for bilirubin, the problem becomes easier to understand. There is a threshold value for bilirubin in the same sense as there is for urea. One must admit that all the steps of the process are not clear, but it would appear that the above statement is even now almost a proved theory.

Minkowski and Naunyn many years ago seemed to have clearly proved from experimentation that the liver was essential for the production of jaundice, and their opinion dominated this subject until but a short time ago. Their views were based on the results of experiments in ducks and geese. After producing a hemolysis by arseniuretted hydrogen in these animals, a jaundice resulted; but when the liver had been previously removed, no evidence of jaundice occurred. McNee, many years afterwards repeated the experiment of Minkowski and Naunyn and confirmed their results, but also showed that the failure to develop jaundice where the liver was absent was due to the fact that in the liver removed from these animals the major portion of the reticulo-endothelial system (Kupfer cells), which is now believed to be the point of origin of the bile pigment, was also included. Whipple and Hooper, in their well known work, were able, by excluding the liver entirely from the circulation and then introducing hemoglobin into the circulation, to demonstrate bilirubin in the blood plasma and the tissues, indicating that the liver itself was not necessary for the production of a general icterus in the animal. Mann and his coworkers have thoroughly established this fact in their work on dogs. They removed the liver completely from the body, and later observed the development of a general icterus. This work of Mann has probably been one of the most brilliant experimental studies of recent years, and it clearly proves that the liver is not necessarily essential in the production of bile pigment.

If the liver cells, therefore, do not produce bile pigment, where does it arise? McNee suggested that the Kupfer cells of the liver, in all probability, produced this substance. These cells, which are endothelial in origin, lying in the vascular channels of the liver, belong to a system of cells which has been termed the reticulo-endothelial system by Aschoff. In man, they are widely distributed in the liver, where they are most numerous, spleen, bone marrow, adrenals, and lymphatic tissues. In some animals, as in ducks and geese, they are chiefly to be found in the liver, and this anatomical distribution accounts for the error made by Minkowski and Naunyn in their classical experiment on bile pigment, as the removal of the liver also meant the removal of practically all the reticulo-endothelial cell system and it is this system which produces the bilirubin.

The relation of the Kupfer endothelial cells

of the liver to the formation of bilirubin was first proved by McNee, although others before this time had seen bile pigment in these cells but had considered that this pigment was produced elsewhere, as in the liver cells, and that these endothelial cells had merely phagocyted the pigment from the blood stream. Minkowski and Naunyn had made these observations, but put all the emphasis on the liver cells rather than on the Kupfer cells. Recently, however, Mann has again produced some interesting experiments which would certainly go far to prove that bile pigment can be formed independently of the liver endothelial system. This work, I believe, has not been published in other than a brief account of one of the weekly meetings of the Mayo staff, and it appeared in the Clinic Bulletin of July 25 from Drs. Mann, Bollman, and Sheard. They have developed a spectroscopic method for the recognition of bilirubin much more sensitive than the van den Bergh reaction. After isolation, by experimental methods, the arterial and venous blood from the marrow of long bones and from the spleen, where, with the exception of the liver, the largest supply of reticulo-endothelium is to be found, they were able to show in the venous blood bilirubin, while the arterial blood to the same tissues was free from this pigment. This would appear almost to settle the question that bile pigment is formed by the reticulo-endothelial system, wherever these cells are to be found in the body, and that the liver cell, therefore, has to do only with its excretion. In all probability, the reticulo-endothelial system in the liver in the human, plays the most important part, because the Kupfer cells are very numerous and the liver is a large organ, but similar cells elsewhere would appear to have the same function. The presence, therefore, of a small amount of bile always in the blood plasma, but not detected by ordinary methods, would present a situation comparable to the known one of urea. If we are willing to consider the Kupfer-cell system in the liver as being but a part of the reticulo-endothelial tissue and not really liver tissue, then the liver has merely an excretory function. This is of interest, because it is possible that the newer methods of estimating liver function by the use of dyes probably may be an indication of the activity of the endothelial-cell system of the liver rather than the liver cells proper.

In the formation of bile pigment from hemoglobin, Rich has shown in his living tissue cultures that the pigment is formed in the cells and, therefore, disproved the old idea that bile pigment was formed extracellularly. When the endothelial cells break down, as can be seen under the microscope in the tissue cultures, then the pigment becomes extracellular. Rich further states that it has not been proved that an extracellular enzyme exists which can, by its action on hemoglobin, produce bile pigment. The summary given by Rich in his excellent review of this problem is well worth repeating: "Hemoglobin may be regarded as a source of bile pigment, and we have no proof that there are other sources. There is no proof that the epithelial cells of the liver can form bile under any circumstances; on the other hand, it is certain the pigment can be formed outside of and independently of the action of the liver cells. There is evidence that cells of the reticulo-endothelial type can form bile pigment, but this evidence is not yet complete enough to be regarded as proof. There is no evidence whatever that any other type of cell can form bile pigment, nor is there any proof that pigment can be formed extracellularly by enzyme action. We are still unable to speak with certainty about the normal site of origin of bile pigment." Mann's recent work, to which we have previously referred, and which was not published at the time of Rich's article, would, however, appear almost completely to answer the question as to the part played by the reticulo-endothelial system in the formation of bile pigment.

The study of bilirubin has led also to a more active investigation of another closely allied pigment, urobilin. The work of McMaster and Elman has done much to clear up some of the fundamental points in the physiology of urobilin formation. They appear to have definitely shown that urobilin is normally formed in the intestinal tract by the action of intestinal bacteria on bilirubin. Some of the urobilin is absorbed from the intestinal tract, contrary to the belief of Whipple, and is later excreted by the liver. Their experimental work seems to be so definite as almost to settle the point. In animals where the bile is withdrawn by means of tubes in the common duct under sterile conditions, the whole 24-hour output can be collected or turned into the intestinal tract at will. With the disappearance of bilirubin in the intestinal tract, urobilin also disappears, and later it is not to be found in the bile excreted by the liver and collected by the intubation method. The animal may then be given his own bile by mouth (at this time no urobilin is present in the bile), and urobilin appears in the stool and later is found in the bile coming from the liver, indicating that it is formed in the intestine, probably by intestinal bacterial action, part excreted in the stool, and part absorbed, to be excreted by the liver. We are not going to refer further to this substance,

although it is not unlikely that urobilin studies are going to receive a good deal of attention in the near future, as they appear to have considerable value in indicating certain functions of the liver.

From the studies that have been made on bile pigment in recent years, it would seem that the van den Bergh reaction has been of the most value in clinical medicine. It certainly is widely used, and we are now in a position to assign to it a place among the well-known and tried laboratory tests. We must still remember that it is only a test, and must not be worked too hard; otherwise we are liable to be disappointed.

When the van den Bergh test for bile pigment first appeared, it was employed chiefly to differentiate between a jaundice caused by obstruction or one produced by hemolysis. This is the qualitative test. Bile pigment which is normally excreted by the liver gives a reaction different from that found in the blood in hemolytic diseases such as pernicious anemia. The former represents the direct or obstructive, the latter the delayed direct or hemolytic. Blankenhorn, however, has shown that bile taken from the gall bladder, giving the direct or obstructive reaction, when mixed with blood serum will later give the delayed direct or hemolytic reaction. He believes that bilirubin is always the same, and that the different reactions merely indicate whether or not the bilirubin is combined with protein. As a rule, the cases of pure obstruction from stones or tumors, etc., give the obstructive or direct reaction, although, at the onset of the process, a hemolytic reaction may be seen, later to be replaced by the obstructive one. One cannot differentiate by this test a catarrhal jaundice from an obstructive one caused by stones, as both may give the same reaction. Unfortunately, however, many very serious types of toxic jaundice with liver-cell injury do not give this typical result, but the so-called biphasic reaction, so that the use of the test in differentiating cases into two groups does not always occur.

It is the general opinion that the most satisfactory results of the van den Bergh qualitative reaction are seen in the mild low-grade types of jaundice, particularly in the anemias, as in the differentiation of secondary anemia it is always very important to know whether there is a hemolytic process present. The van den Bergh qualitative reaction should not be used merely as a method to diagnose cases of gall stones with obstruction, because very often it will not. We do not mean it is not of value and should not be done, but that the result may not be as definite as you may be led to expect. We would repeat that in the indefinite, very slightly jaundiced cases, especially in the anemias, this reaction has great value. McNee has recently drawn attention to this, and also emphasized the fact that the plasma or serum must be tested within two hours after taking, or false readings are otherwise liable to be seen, as the fresh specimen may show a direct or obstructive reaction, and if kept until the next day, the same serum may give a delayed direct or hemolytic reaction. It is always best to use oxalated blood, because slight hemolysis interferes with the test. The glassware should be chemically clean.

Another point of value in this test is that it demands the study of blood plasma or serum. If we are going to use bile pigment as an early diagnostic sign, then there is only one place to search, and that is the blood plasma or serum. There appears to be a very definite threshold for bile pigment, as the plasma may contain amounts very easily recognizable to the eye, without any pigment being present in the conjunctiva, skin, or urine.

Finally, the qualitative test has added significance in that it is specific for bilirubin, and in certain types of unusual yellow pigmentations of serum and tissue seen at times in those individuals who have been eating large amounts of vegetables, particularly carrots, it is necessary to employ this reaction in order to be sure that the pigment is bilirubin and not carotin. Green reported two cases where the carotin pigmentation was so pronounced that a mistake in diagnosis could very easily be made.

The quantitative or indirect van den Bergh test is very useful, and is the best practical method for estimating small or large amounts of bile in the blood plasma. We are inclined to feel that this part of the test is going to have considerable practical value; in fact, to be of more clinical worth than the qualitative test. The actual amount of the bile pigment present is very important to know. This test detects one part in 1,500,000 in the blood plasma. Normal blood plasma may contain 0.5 to 2 mg. per cent, while in severe cases of jaundice the bile figure may be as high as 40 to 50 mg. per cent. The technic of Thannhauser and Anderson should be employed. The progress of a jaundice can easily be followed on a quantitative basis with the aid of this test.

The Muelengraht reaction is also a test of some value for estimating quantitatively the amount of bilirubin in the blood plasma. This is a very simple procedure, comparing the yellow color of the serum or plasma with a standard made of a 1-in-10,000 solution of potassium bichromate. By adding normal salt solution in cubic-centimeter amounts to the serum until the

color of the serum to be tested matches that of the tube containing the bichromate solution, and by counting the number of cubic centimeters used, one estimates the bile index, but unfortunately all the yellow pigment that is seen in blood plasma may not be bile pigment. The pigment of vegetables, particularly carrots, gives a yellow color; and this may be so excessive in those individuals who eat largely of a vegetable diet that a general yellow pigmentation may occur. In Greene's cases, the carotin pigment index was 18 and 26, while the bilirubin was 0.5 mg. per cent and 1.1 mg. per cent. This is an excellent example indicating the superiority of the van den Bergh over the Muelengraht reaction. As a rule, however, this is not a factor, and this test is by no means a useless procedure.

Dr. Florence Kline and I, a few years ago, examined a considerable number of sera by the Muelengraht method. Normal sera take from 1 to 5 cubic centimeters of normal salt solution to match. Pernicious-anemia cases usually were between 5 to 10 cubic centimeters; while in those cases with intense jaundice, the values reached to 50 cubic centimeters or higher, 120 being the highest we recorded. We never recognized bile in the urine in a blood serum under 10, nor was the conjunctiva pigmented in the obstructive type under this figure. The test does emphasize the value of examining the blood serum when searching for smaller quantities of bilirubin. It does not give the specific information of the van den Bergh test, but still it is of clinical worth and is very easily carried out.

In conclusion, there are two points on the recognition of bile pigment which are thoroughly ancient but still are of value, particularly when the more sensitive tests just referred to are not available. Inspection of the skin and conjunctiva in a bright daylight will allow only few cases of icterus to pass by unrecognized unless they are of the latent or mild type. Lastly, in testing for bilirubin in the urine, cut down the fluid intake so that the urine is concentrated. The not very sensitive Gmelin test can very easily be changed from a strongly positive reaction to a negative one by a diuresis produced by extra fluid, and a pale-colored urine under these conditions may be very misleading. Although not specific, we prefer the methylene-blue test for bilirubin in the urine in routine work, as it is much more sensitive than the Gmelin test, but positive findings always should be controlled by examining the blood plasma.

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*SYMPOSIUM ON AFFECTIONS OF THE RESPIRATORY TRACT**

DANGERS OF THE COMMON COLD IN THE NEWBORN

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The common cold is endemic and often epidemic during the winter months, and the frequency with which it is transmitted to the newborn child is not fully appreciated, nor are the dangers associated therewith given sufficient attention.

Naturally, this disease must be brought to the infant, because it cannot go out and become infected. The severity of the infection depends considerably on the physical condition of the child after its hard journey into this world, as well as upon the virulence of the germs. Of course, many infants are infected who pass through a mild course of the disease, as is seen in adult life, but the infection may very quickly pass into a serious stage with alarming symptoms, and it is to this class of cases that attention is directed.

This disease starts as an acute coryza and rapidly extends through the respiratory tract, so that a pneumonia may develop quickly and the primary infection will be overlooked. Death results in a majority of these cases. The point to

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emphasize here is that this condition so frequently and quickly leads to serious results that the treatment should be energetic and persistent from the start of the disease in order to avoid complications.

All children are nose breathers at birth, unless some congenital deformity is present, and even under these circumstances the child must learn to breathe through the mouth. Owing to the small caliber of the nasal passages, a slight cold produces enough congestion of the mucous membrane to cause occlusion of the nares and compel mouth breathing.

Following infection, the temperature in the severe cases rises rapidly to 103° and higher. A discharge from the nose appears, and the secretion quickly becomes purulent. Cultures of this discharge frequently show the presence of pneumococci. The child is seriously ill from the time of infection, and if it survives the overwhelming toxemia of the first few days, complications almost always follow. Pneumonia, acute otitis media, and adenitis are the most frequent complications. As one expects the condition to be worse in premature and weak babies, so many of these patients do not react to the infection, and die within the first twenty-four hours. When death occurs, the diagnosis of atelectasis is usually made.

Unfortunately, many of these cases are considered as suffering with hereditary syphilis, and, with knowledge of the high mortality of this disease, energetic treatment is not used, and the little patient frequently dies under this cloud.

Diphtheria is a possibility and should be excluded immediately or, if present, specific treatment should be administered at once in order that the child's life may be saved. This disease is frequently fatal in the newborn, probably because it is overlooked and antitoxin is not administered early enough.

Other specific diseases must pass through the period of incubation or, if present in the mother, the diagnosis can then be made easily.

In the treatment, constant attention is the keynote. The remedies to be used should be at hand for an emergency. Adrenal-chlorid solution 1-4,000 (one drop in each nostril hourly) should be used until effective. Belladonna or atropin are most valuable in these cases, and the latter should be given in 1/1,000-grain doses hourly, until full physiological effect is obtained, and then the interval may be lengthened to three hours.

The little patient should be ready for a mustard bath in case of respiratory failure, and the bath must be used at frequent intervals when indicated. Sometimes this is the most effective remedy that can be used.

Oxygen should be used freely during the danger period, and frequently gives great relief. Sometimes artificial respiration must be used, and I have seen lives saved by this procedure.

In many cases, the danger period passes in forty-eight hours, and the vigilance may be relaxed. If the treatment is faithfully carried out during this time, complications may be prevented and many children can be saved.

One important point in prophylaxis, which is almost routinely overlooked, is overcrowding in the nurseries of the hospitals. This in itself is a menace where such infection is likely to appear at any time, and it is good fortune that these epidemics of colds are not more frequent in the nurseries.

When the infant has contracted a cold it is best to keep the room temperature at 80°, but well ventilated, and of course the patient is isolated.

Liquids should be administered as freely as possible, but a child struggling for its breath through its mouth will usually refuse to stop breathing long enough to swallow water or, if the fluid is forced, it will precipitate an attack of choking. Such interference to breathing in some cases is a great danger because the baby is already extremely prostrated. Normal salt solution may be administered by the bowel every four hours in two- or three-ounce doses, and held by pressure on the buttocks, if necessary, but larger quantities are retained with difficulty.

The chief danger in these cases is air hunger, so that water and food starvation need not be considered too seriously during the first forty-eight hours of the disease.

In conclusion, I wish again to emphasize the importance of constant attention to the serious symptoms as they arise, and the administration of the remedies as need appears.

PNEUMONIA WITH DELAYED RESOLUTION IN INFANTS AND CHILDREN

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While pneumonia in infants and children is divided into two main classes, there are so many deviations from the true textbook types of the disease that interpretation of the affection rests upon the experience of the diagnostician. In practice, many cases are seen where one physician believes pneumonia exists, while another

will not make such a diagnosis, and vice versa. This is particularly true in the experience of those physicians who have a large hospital service in pediatrics.

Sufficient emphasis has not been placed upon the fact that a frank lobar pneumonia may continue over a period of several weeks, or at least that the pathology caused by such an infection does not clear up in the usual way with a crisis, a sharp fall in the temperature, extreme prostration, and rapid resolution of the tissue involved.

Practically all cases of pneumonia which do not end by crises within a relatively short period are considered bronchopneumonia, but there is a number of frank lobar pneumonias which may fail to be cured by resolution within two weeks, and some which last considerably longer.

Children suffering from this condition are usually in better physical condition than those who suffer from a prolonged bronchopneumonia, and are not, as a rule, so extremely prostrated as in the latter class of cases.

The lesion in this type of disease is confined to one lobe or a part of a lobe. None of the cases under discussion has come to autopsy, but in two cases, where empyema was suspected and operation performed, the lung tissue was very hard and not collapsed. Apparently there was an infiltration of the vesicles with a fibrous substance, for the surface of the lung was free from adhesions and covered with a normal pleural membrane. Needless to say, no tissue was removed for examination in these patients.

The history of such a case shows the usual onset of a lobar pneumonia without the usual termination. The toxic symptoms gradually disappear. There may be loss of weight, but the pulmonary findings persist. The subjective symptoms are slight compared with the physical findings. The temperature may be above normal, or show a slight daily variation of a degree or two. There may be a slight cough, but not so much as would be expected with the degree of lung involvement.

Physical signs show definite consolidation. The breath sounds may be bronchial in type, or absent. There are very few râles, and motion of the affected side is limited.

Differential diagnosis is very important. Tuberculosis, foreign body, lung abscess, and empyema are the chief conditions to be considered.

Tuberculosis may be ruled out through a negative tuberculin test, absence of tubercle bacilli in the sputum, the gradual improvement of the child's condition, and the absence of serious symptoms considering the extent of lung tissue involved.

Foreign-body cases usually give a definite history of inspiration of the body, a severe reaction, and, if not soon removed, an abundant purulent discharge with septic temperature, together with definite x-ray findings.

Lung-abscess symptoms closely resemble those caused by a foreign body, and the x-ray aids considerably in diagnosis.

Empyema is most frequently given as the diagnosis in this condition. The child is not so prostrated as in empyema, nor does the temperature run the typical course. There is a tendency toward recovery from week to week, which is contrary to the course in empyema. There is no bulging of the interspaces. The x-ray findings may be identical. Exploratory puncture will give no fluid or a very small quantity of serum. If not carefully performed, the slight quantity of fluid may be pure blood.

The prognosis in the few cases observed has been recovery after a long convalescence of one to four months. Nothing positive in specific treatment can be offered. One point that seemed of value was the marked improvement which followed in the two patients operated upon.

In one case, after several punctures in which no pus was obtained, an intercostal incision was made, and no pus was found. This patient showed very rapid improvement and seemed well in one month. In the second case, during an exploratory puncture, the child suddenly released itself, and the needle was broken off during the struggle. It was necessary to open up the chest to remove the needle, which was found sticking in the lung. This child made a rapid and uneventful recovery, being discharged from the hospital in three weeks.

The immediate improvement which followed opening the chest in these cases suggests that the same success might follow artificial pneumothorax. As this procedure has been practiced successfully many thousand times in tuberculosis cases, it seems reasonable that the careful admission of air into the pleural cavity of patients suffering from pneumonia with long-delayed resolution might hasten recovery. On the other hand, there seems to be no contraindication to its use in properly selected cases, and no harm can be done the patient by this new method of treatment. Therefore, it is suggested that artificial pneumothorax be tried in cases of pneumonia where resolution has been delayed after a month from the onset of the disease, provided no complications exist and the patient's condition is suitable for this treatment.

THE TREATMENT OF ACUTE EMPYEMA

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If the skin and muscles covering an intercostal space are removed, the lung can be seen in close contact with the parietal layer of the pleura gliding by with each inspiration and expiration. If, however, an opening is then made in the pleura sufficient to admit air, the lung immediately collapses. The visceral and parietal layers of the pleura are widely separated, causing an empty space within the pleura. This space formerly occupied by the distended lung is known as a pleural cavity. The explanation of this phenomenon is very simple. The thorax is composed of firm, unyielding walls which resist atmospheric pressure. It is actually an air-tight box which can be made larger or smaller at will by muscular action. The movements of the lungs are determined by the movements of the thorax. Inspiration is an active muscular process of the thorax, while expiration is solely passive. During the act of inspiration, the atmospheric air distends the lung and holds it tightly against the parietal layer of the pleura. The lung is then in a state of elastic tension. When expiration sets in, the lung endeavors to draw away to form a pleural cavity. However, this is prevented by a negative pressure within the pleura, and also by the unyielding structure of the thoracic wall. So long as the thorax is intact, the lung implicitly obeys the laws of respiration.

When the opening in the pleura was made, in the above experiment, the lung collapsed because the intrathoracic pressure was equalized by the atmosphere, permitting the lung to recoil by the force of its own elasticity. In every stage of respiration the layers of the pleura are in contact; that is, normally there is no pleural cavity.†

A frank pleural cavity is pathologic. It means collapse of the lung in comparison to the size of the cavity. The larger the pleural cavity the greater the collapse of the lung. The collapsed part of the lung does not function. The chief purpose of respiration is the exchange of gases, or aëration of the blood. This is a vital process dependent mostly upon the tidal air which is normally about 350 c.c. to 500 c.c. with each respiration. The physiology of respiration should be carefully considered in all thoracic operations.

The literature on empyema is extensive and complete. At a grievous cost, the World War taught us many valuable lessons on its treatment. At Camp Dodge the incidence of empyema in the pneumonias was 45%, with a mortality of 64.8%. The statistics in civilian hospitals show a mortality varying from 12% to 30%. The records are not satisfactory in civilian hospitals, because in one hospital the mortality record will carry the cause of death as empyema, while in another hospital the mortality record will carry the cause of death under the associated morbidity, as pneumonia. The incidence of empyema in pneumonias varies from the high record at Camp Dodge, 45%, to 5%.

It would appear that a pleurisy always precedes an empyema. In the lobar pneumonias extending to the periphery of the lung, a pleurisy is so common that it ceases to be considered a complication. It has been found even on the opposite side. Any pleuritic effusion may become an empyema. In children, pneumonia is more often complicated by empyema than in adults. In lobar pneumonia the empyema is nearly always a sequel. The organisms predominating in the sputum may not be the prevailing organisms in the empyema. In lobar-pneumonia empyema, the pneumococcus, the streptococcus hemolyticus, the streptococcus viridans, the staphylococcus aureus may be found in the empyema, and yet the pneumococcus was plainly the cause of the lobar pneumonia. The influenza pneumonias usually present the streptococcus hemolyticus in the empyema. No one can generalize as to the causative organism of an empyema in a given case. The fluid must be drawn and cultured.



FIG. 1. Showing the complete apparatus set up ready for use. The suction bottles each have a capacity of two gallons, and the syphon bottle of sixteen ounces. The water flowing from suction bottle (A) to suction bottle (B) creates 43 mm. Hg. of suction when bottle (A) is raised 23 inches from the floor. When bottle (A) is nearly empty the bottles are exchanged. The syphon bottle (C) catches the fluid from the empyemic cavity.

Influenza pneumonia is usually a streptococcic lung infection. It is an interstitial pneumonia in contrast to a lobar pneumonia, which is a surface

†BRUBAKER'S *Physiology.*

affection. The exudate is extra-alveolar, and does not resolve, becoming in fact a potential abscess. These miliary abscesses break into the pleura, accounting for the high incidence of empyema. In the bronchopneumonias and the

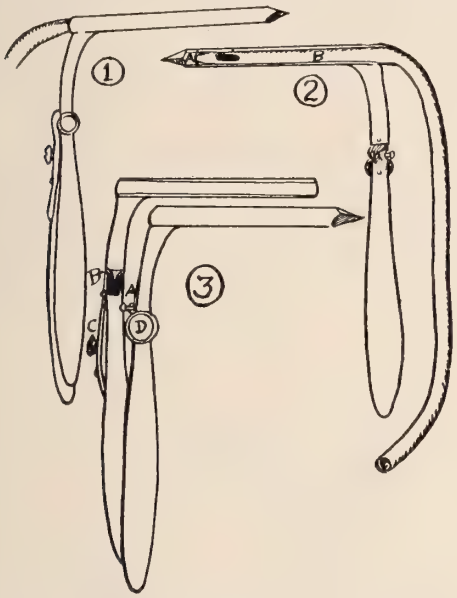


Fig. 2. Showing the separable trocar and tube introducer. This tube will carry an 18 F. catheter.

influenza pneumonias the empyema is a complication. It has been observed as early as the first day, but usually it is seen on the fourth or fifth day of the pneumonia. The early thin fluid loaded with bacteria and a few leukocytes may be the precursor of a generalized sepsis.

If this fluid is aspirated early, it will save many a life and lead to restoration of the function of the lung. If the aspirated fluid contains streptococci and few or no polymorphonuclear leukocytes, it will become purulent within a day or so. When the aspirated effusion contains streptococci alone with no pus cells, or when polymorphonuclear leukocytes are found, the treatment should be started at once. The presence of polymorphonuclear leukocytes indicates empyema. No matter how sick the patient may be, do not delay the treatment.

Aspiration gives the only positive evidence of empyema. Physical signs assist very much as clues, but the fact must be recognized that no physical sign is constantly present. The roentgenographic examination, when accessible, is a very great help, especially in encysted empyemas. Under the fluoroscope, small encysted areas can readily be tapped with the needle.

It is possible that the culture of an empyemic fluid may be apparently sterile on the ordinary culture media. If such a case presents itself, tuberculosis may always be suspected. A guinea pig should be injected, and later examined for tubercle bacilli.

Perhaps the wrong conception of unresolved pneumonia is the outstanding cause of most of the failures to diagnose pneumonia empyema. The procedure should be to needle the area of flatness, or dullness, or bronchial breathing, or whatever physical sign the impression of delayed resolution is based upon. The needling should be done in every case before a diagnosis of unresolved pneumonia is made. If this procedure were routine, we should see fewer complications of empyema. In influenza and bronchopneumonia, needling should be done within the first few days.

A neglected empyema may empty into the lung, a bronchus, the pericardium, or the abdominal cavity, and rarely through an intercostal space. The commonest complication is emptying into a bronchus. It is well to remember that a child's pleura is tolerant to pus. The child may have an encysted empyema, yet show no physical signs of it or of any lung disturbances whatsoever. When he is pale, weak, anemic, and has an evening rise of temperature, however, with a negative urine test, an encysted empyema should be suspected. If this condition is present, a roentgenographic examination will locate it, thereby establishing the diagnosis. A white-

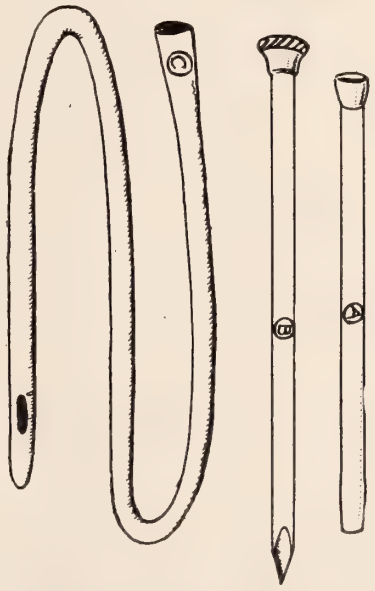


Fig. 3. Showing a trocar and canula of sufficient size to carry an 18 F. catheter. This may be used instead of the separable trocar and tube introducer.

cell count is not dependable, because there may be found a leukopenia or a hyperleukocytosis.

The minor operation of needling is a very old procedure, and yet a much neglected one in the diagnosis of thoracic diseases. If properly done, there can be no damage. The needle should be

not less than a 22 gauge, 2 inches long, and should be slipped on a Luer glass syringe, and all sterilized. The operator's hands and the operative area should be antisepticized. Atmospheric air should not enter the pleura through the needle. When fluid is obtained, it should be examined microscopically for polymorphonuclear leukocytes, and cultured to determine the predominating organism. No one should be satisfied with a single dry puncture. It may be necessary to repeat the needling in different areas until fluid is found, or until the operator is satisfied none is present. A persistent area of impairment, or of flatness with suppression of breath sounds or hollow tubular breathing justifies needling and, if possible, roentgenographic study.

The introduction of the catheter is the only painful procedure in the treatment. As a rule, a local anesthetic is all that is required. We found novocain, one half of one per cent, to be the best local anesthetic for this work. The skin should be freely infiltrated and a few deep injections made. This is done in bed without removal to the operating room. A nervous child, when in the hospital, may be taken to the operating room and given a little nitrous-oxid gas and oxygen. This is permissible, but ether or chloroform should not be given.

The drainage catheter should be soft rubber, good quality, number 18 F., and with a double eye. A smaller catheter may be used, but a larger size becomes pinched and should not be employed.

The eighth intercostal space in the posterior axillary line is usually the selected point for the drainage. However, it may be in any intercostal space, and more than one catheter may be used. The aspirating needle should always be passed immediately before the drainage tube is inserted. The operative area must be carefully antisepticized.

The illustrations show three methods for insertion of the catheter. Figures 2 and 3 show the best methods, and figure 4 displays an emergency method. Whatever method is chosen, it must be done quickly. The skin is incised for one-half inch with a sharp scalpel in the intercostal space selected. The instrument is caught firmly by the thumb and fingers, two inches back from the point, and thrust into the empyema. The catheter, before insertion, should be clamped with a hemostat to prevent the entrance of air. During the entire suction treatment, it is very important that atmospheric air should not freely enter the empyemic cavity.

The third method shown in figure 4 is not so good, and, of course, the catheter cannot be clamped. After the catheter is placed, oxid-of-zinc adhesive plaster in strips is applied about the tube, and piled up along the catheter, to hold it in place, and also to make it air tight. Further to strengthen the fastening of the catheter in the thoracic wall, a hitch of adhesive plaster is placed four inches up the catheter and attached to the skin. The patient is then ready for the suction apparatus. Figure 1 shows the apparatus set up and in use.

When the connections are made, the pus will drain rapidly into the syphon bottle. The contents are usually drawn off at once. In the very large empyemic effusions the suction is stopped at intervals, although I have never seen any bad

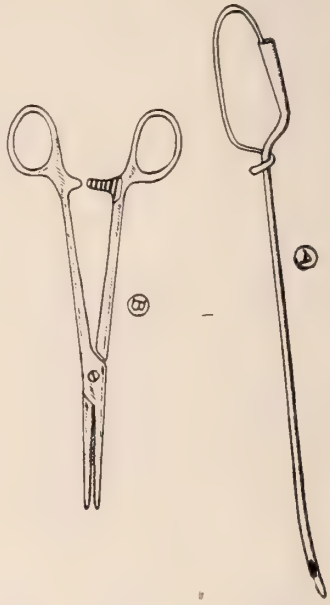


FIG. 4. Showing a catheter and stylus as used by the urologist. This simple apparatus may be used after a small thoracotomy incision is made with a scalpel. It is not so good as the trocars and canulas shown in figures 2 and 3.

effects from rapid withdrawal. The suction is kept on practically constantly night and day. Every eighth hour the catheter is clamped and the suction disconnected. A glass piston syringe, holding two ounces of Dakin's solution, is inserted into the fluted end of the catheter, the clamp removed, and the solution injected into the cavity. The filling is continued in like fashion until the patient complains of painful distention. The chlorine solution is not poisonous, but is quite irritating. The strength of the solution should be just below the point of pain. A 1-to-8 solution may be tolerated at first, but soon 1-to-100, or 1-to-200, may be the strength permitted by the patient. The suction apparatus should then be connected up and the clamp removed from the catheter. The Dakin's solution

will dissolve the pus and lymph, allowing a free flow of fluid through the catheter, and also will antisepticize the empyemic cavity.

Occasionally, it will become necessary to reënforce the adhesive plaster on the skin around the catheter. Suction drainage cannot be effective over about ten days because the thoracic opening becomes too large for the catheter. Fortunately, this is long enough for this treatment. When the catheter is removed, the small suppurating tract should be flushed with Dakin's solution, and covered with a sterile dressing. The patient should be as well fed as possible, and kept in bed at rest until the wound heals. In fact, the nursing should be similar to a case of pulmonary tuberculosis. The nitrogen waste is very high, and the caloric food value must be greater than in health. The patient should never be ambulatory.

So far, our results have been absolutely satisfactory, and in no case has rib resection been required. The method is not applicable to chronic empyema, nor to acute empyema with bronchial communication. Although in chronic empyema we found it very useful as a preoperative treatment for the reduction of the toxemia, yet some form of rib resection offers the only treatment in these two types. There is a best time to treat every disease, and no method can be devised which is adequate when this opportunity has been neglected.

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THE ACCIDENTAL INHALATION OF ZINC-STEARATE DUSTING POWDERS

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The majority of problems in the care of young children presented to pediatricians by mothers are usually simple from the standpoint of cause, but serious from the standpoint of consequences. Every mother is frightened and worried repeatedly by her baby putting everything into its mouth. The most common article within reach of a child is frequently the bath-powder can. With the widespread use of zinc dusting powders sold to the trade in containers unsatisfactory from a medical viewpoint, we are seeing constantly increasing numbers of zinc-stearate-poisoning cases.

A survey of the literature shows that the first article on zinc stearate was written by O'Keefe of Boston in 1916, and since that time several articles and case reports of deaths resulting from the accidental inhalation of zinc stearate have been submitted.

Zinc stearate forms the basis of a great many dusting powders used for toilet and medical purposes. It is a compound of zinc acetate and castile soap. Due to its peculiar physical properties (its tendency to adhere to the skin and mucous surfaces, and form a protective covering) it is valuable in irritations of the skin, as well as a menace to the bronchial mucosa. Since it is waterproof and soothing, it has satisfied many a mother in search of a panacea for excoriated and inflamed buttocks.

The brightly colored, highly polished tops of the containers attract the child, and at once offer a menace because of the tendency of all children to place things in the mouth.

The inhalation of the ordinary talcum powder as a rule does not cause any pathology, since it is very readily coughed up and does not adhere to the mucous surfaces. It is only when incorporated with zinc stearate that it becomes a menace.

Cases of sudden collapse and subsequent fatal termination, which have been attributed to other conditions, doubtless may have been caused by the accidental inhalation of zinc stearate. It is obvious that many cases are not diagnosed by the busy practitioner. In examining the statistics, only one hundred and thirty-three cases were reported in the entire United States. A month ago three cases were seen in the children's services of our hospital in one day; thus it would seem that the condition is more prevalent than would be commonly supposed.

Symptoms in all cases are immediate, the severity depending upon the amount lodged in the mouth and nostrils. If the child has had a container open suddenly, as in the removal of the top, the asphyxia may be rapid, and death may ensue in a short time. The collapse may be sudden, associated with rapid respiration, marked air hunger, and cyanosis. The condition may have a milder onset, and may progress to a bronchopneumonia several days later. The temperature, as a rule, is in proportion to the amount of pulmonary involvement. The pulse is rapid and irregular. The picture is that of an ordinary bronchopneumonia, if sufficient zinc stearate has been aspirated into the lungs.

Once clinical symptoms have developed, three stages can be distinguished from the point of view of the pathology: the bronchic, the emphysematous, and the cavernous or bronchiectatic. If the inhalation of the powder continues, vicarious emphysema develops by way of bronchitis, leading to bronchiectasis.

The radiographs of cases seen by us present

two distinguishing types. In the first, changes are seen at the hilum of the lung which extend uniformly in the shape of a network over both lungs, and give them a uniform marbled appearance. The second form, the so-called nodular type, is characterized by large, intense, sharp and jagged shadows, and by small disseminated spots on both sides.

In considering the pathology of the lungs after zinc-stearate death, the findings are influenced by the amount aspirated into the lungs. In confirmation of the findings of Heiman and Aschner,[1] the author found, in laboratory animals that died several hours or a day or so after the inhalation of the stearate, that the lungs were well aërated, and of a salmon-pink color. They were free in the pleural cavities, with no increased amount of fluid. The pleura was covered with petechial hemorrhages, especially in the upper lobes, and very slight crepitations could be felt in the upper lobes. The cut surfaces in this locality showed a great amount of bloody, frothy serum.

Microscopically, normal lung tissue can be seen, except in the places corresponding to the hemorrhagic areas. These areas show congestion, with increase in the interstitial tissue, especially in the vicinity of the bronchioles. Vessels show perivascular edema, and in places, round-cell infiltration of their walls. Bronchioles show epithelial proliferation, with some irregular formation. The lumen of the bronchioles contains many round cells. The outer coats present round- and polymorphonuclear-cell infiltration, with a deposit of pigment. The parenchyma about the bronchioles shows areas of alveolar desquamation, with pigment in many of the desquamated cells. The picture is that of a traumatic bronchopneumonia.

It is a question whether the small amount of zinc stearate swallowed by an infant at the time of the accident causes much gastro-intestinal inconvenience. Because of the adhesive qualities already mentioned, it would appear that it would be very difficult for a child to swallow sufficient zinc stearate to cause toxic symptoms. In animal experiments carried out by the author, enormous doses of the powder were given, and they did not apparently suffer any ill consequences; while on the other hand a very small amount inhaled would cause sudden collapse and death in a very few hours.

The treatment of the condition depends largely upon how soon after the accident the physician sees the case. If seen soon after, gastric lavage may be resorted to, not so much to remove what little the child has swallowed, but to induce vomiting and to cleanse what still might remain in the throat. A mustard bath, if collapse has already taken place, is beneficial, as well as camphor and oil hypodermically. An attempt to produce crying, which may aid in the expulsion of the powder, is a good procedure. Suppressing the cough by hypnotics, as suggested by some writers, seems theoretically incorrect; as by so doing, nature is being defeated, and the cough that would aid in the freeing of the stearate from the lungs is eliminated. Mustard plasters to the chest as counterirritants in the bronchopneumonia act both as a stimulant to the child and as a sedative to the parent who thinks that she is doing something for the patient. Brandy may be used freely, and acts as a powerful volatile stimulant. The interrupted use of medicated steam seems to aid materially by increasing bronchial secretion. The value of expectorants is doubtful, but theoretically should be beneficial.

In an attempt to suppress and reduce accidents of the above nature, which represent a mortality of 21%, the House of Delegates of the A. M. A.[2] at the San Francisco session adopted the following resolution:

1. That all manufacturers of zinc-stearate powders for infants be requested to use a self-closing container of a type which does not lend itself to manipulation by an infant.

2. That the use of zinc stearate as a dusting powder for infants be discouraged by the medical profession because of the lack of therapeutic evidence of its value.

The manufacturers were approached, but their objections to caution labels were the same as with lye—that it would hinder sales. In some cases, their caution labels were misleading and obscure. One manufacturer erroneously placed upon the label that zinc stearate was perfectly safe and harmless to use in any quantity. But the above attitude, we are pleased to say, was not assumed by all manufacturers. Some have instituted proper self-closing containers with smaller holes and proper precautionary labels.

Conclusions

1. The menace from zinc stearate is a real one: it may cause sudden death, or bronchopneumonia, with all the consequences entailed

2. The medical problem is its prevention.

3. The sale cannot be prevented; hence the problem is to warn mothers of its dangers and to bring about legislation which will compel the use of proper containers.

The author wishes to acknowledge his indebtedness to Dr. J. Ballagi for his aid in interpretation and sectioning of pathological specimens.

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POST-TONSILLECTOMIC PULMONARY ABSCESS

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Consideration of acute pulmonary suppuration as a direct sequel of tonsillectomy presents the curious paradox of the overlooking of the obvious. When attention was called to this complication of tonsillectomy by Charles W. Richardson,[29] nearly every tonsillectomist felt that he never had seen such a sequence from his own personal work, and began to review his technic to determine the cause of his freedom from this complication. It now seems probable that he had seen such cases, but had not recognized the direct connection between his operation and the pulmonary disease it had caused. It is now evident that we must relegate to the medical dark ages such statements as, "Unfortunately the child caught cold on his way home from the hospital after the tonsil operation and developed a pneumonia which has not yet resolved." This quotation is from a letter (by an alert practitioner) that I have found in my own correspondence of eighteen years ago. I am free to confess that, while I then knew that "colds" were not due directly to cold, and that pneumonia is an infective disease, I did not then realize that the child did not have pneumonia, nor did I then see the connection between the lung condition and the tonsil operation. I now realize that the child had no "cold," nor any true pneumonia, but simply a post-tonsillectomic pulmonary abscess. I can recall a number of cases of what I then called "postanesthetic pneumonia" that occurred in the bygone years when I did tonsillectomies. Had I been asked at that time if I had ever had pulmonary abscess follow tonsillectomy I should have answered in the negative.

I remember six cases of diagnosticated "pneumonia," following tonsillectomy, that were made the subject of a communication to the board of trustees of a hospital as the basis of a request for the installation of a heating apparatus in a corridor connecting the operating room and the ward. It was thought that the "pneumonia" was due to chilling in the postoperative transit of the children through the corridor to their beds. In the light of our present knowledge, it is obvious that those children had suppurative pulmonary disease complicating the tonsillectomy, and not the pathologic process to which the term pneumonia is applied by internists and pediatricians. Doubtless the heating appliances in the corridor were needed, but the lack of them was no factor in the etiology of the pulmonary abscesses.

Frequency

It is impossible, as yet, to make even an approximately accurate estimate of frequency of suppurative pulmonary sequelæ complicating tonsillectomy, because the connection between the operation and the complication, as pointed out in the preceding paragraph, has been overlooked. Obtrusive symptoms do not usually develop until at least a week after the operation. In most cases, the tonsillectomic patient has returned home by that time, and the connection between the operation and the complication is not realized. Accurate data are those of Frederick T. Lord.[19] In a series of 227 cases of pulmonary abscess, he found that 96 (42.29 per cent) had followed operations. Of the 96 cases, 78 were due to operations about the upper air passages, and in 49, tonsillectomy had been done. Of the 96 cases of postoperative pulmonary abscess, however, 18 (all under general anesthesia) were in regions remote from the upper air passages.

Statistics of the roentgenologist are especially valuable because of the accuracy of diagnosis and the elimination of the question of overlooking. Therefore, especial importance attaches to the statement of Wessler[36] that 80 per cent of the postoperative cases of pulmonary abscess in his experience had followed tonsillectomy.

Dr. H. H. Lott,[20] in tracing 446 patients on whom tonsillectomy was done by his assistants and himself at Jefferson Hospital, found no instance of postoperative pulmonary involvement.

From many statistical sources similar to the foregoing, it is evident that, while tonsillectomy is one of the most frequent causes of pulmonary suppuration, its occurrence is rare relative to the number of tonsillectomies done.

Etiology

Here we enter upon a subject of bewildering complexity. Outside of infarct and a few clearly infective conditions such as tuberculosis, influenza, lobar pneumonia, spirochetosis, and tracheobronchial diphtheria, the etiology of pulmonary disease is still in a chaotic state. Notwithstanding the fact that every individual is exposed to "a draft" (i.e., air in motion) every day of his life, a draft was until recently supposed to cause "a cold on the chest" which might "run on into pneumonia." Modern scientific thought is that almost all diseases of the lung are primarily or secondarily of infective pathology, though not by any means always the result of air-borne infection. It may be taken as accepted that post-tonsillectomic pulmonary abscess is the result of infection.

Source of Infection.—Whatever may be the

route by which the infective agent reaches the lung, there is good reason to believe that post-tonsillectomic pulmonary abscess is an auto-infection, and that the patient's mouth is the source. Infective organisms of various grades of virulence are present in every human mouth. The tonsil itself is a filter (usually, when operation is indicated, a choked filter) as well as an incubating chamber for nearly all sorts of pathogenic organisms. If pulmonary abscess develops from organisms present in the bronchi before operation, they may have originally reached the bronchi from the mouth by the nightly inspiration of fluid secretions from the mouth, or they may have been air-borne. In either case, they may have multiplied during pathologic processes, but under normal conditions they are quickly destroyed before the air cells are invaded through the bronchioles. The parenchyma, of course, may be reached by a short cut through the lymph channels from the larger bronchi, though the epithelium of these larger bronchi is regarded as more resistant.

Route of Infection.—As pointed out by Fetterolf and Fox,[6] there are three possible routes of infection: (1) the bronchi, (2) the lymph channels, and (3) the blood vessels.

It seems probable that each of these routes is traversed in respective cases of post-tonsillectomic pulmonary abscess, but the relative frequency of travel by each route has not yet been determined. It is not impossible that two or even all three routes may be traveled in one case, as might occur when an infective agent reaching a bronchus has penetrated the epithelium. Once this barrier is passed, the blood and lymph channels are reached and a relatively remote parenchymal focus might result.

One naturally thinks first of inspiration as the logical route. We know by hundreds of clinical cases that solid, semisolid, and fluid substances not only can be, but are frequently, inspirated into the lower air passages, not only during sleep, natural and artificial, but even more frequently while awake. We have had a number of cases in which teeth and portions of tonsil instruments have been inspirated into the lungs during the operation of tonsillectomy. But this does not prove that the infective agent in post-tonsillectomic pulmonary abscess is necessarily inspirated in the same way. Indeed, the evidence, so far as it goes, is rather against this theory, because these patients promptly recovered as soon as the infection-besmeared foreign body was removed, and there was no tendency to abscess. This would indicate the presence of a highly efficient barrier against infection by this route. That the laryngeal reflex can be abolished under local anesthesia has been shown by Moore.[26] That blood does reach the tracheobronchial tree during tonsillectomy under general anesthesia has been demonstrated by Myerson,[27] who found the blood bronchoscopically in 76 out of 100 cases of tonsillectomy. As the source of the blood was the tonsillar field of operation, the inference is justified that the blood carried with it infective agents from the tonsil.

On the other hand, we have had a number of cases sent into the Bronchoscopic Clinic with a history of fulminating onset with hemoptysis as the first symptom, which, taken with the opinion of Dr. Manges in the respective cases, justify the inference that the lung suppuration was of embolic etiology. By this, however, we do not mean to claim that it is always or ever possible to classify the cases positively as of inspiratory and vascular etiology respectively. There is, nevertheless, a difference, as pointed out by Manges,[23] in the Roentgen-ray shadows very suggestive of the two etiologic classes of case: namely, inspiratory on the one hand, and vascular, including both lymph and blood channels, on the other.

Failure of the Defensive Power of the Lung.—This I believe to be the most important factor in the development of pulmonary suppuration in the cases in which the infection has reached the lung by inspiration. It may be stated in a general way that the defense of the lung against air-borne infections consists in two agencies: namely, expulsion of the intruder by the cilia and the cough reflex, and destruction of the infective agent or inhibition of its activity. The prime importance of the ciliary action in the defense of the lung is conceded. The results of its impairment have been considered elsewhere.[9, 13] The fundamental importance of the cough reflex as "the watch dog of the lungs" has been dwelt upon.[14, 10] As to the impaired efficiency of the cough reflex in disease, we have bronchoscopically obtained data establishing the fact that normal drainage of the lung by cough is at times arrested,[15, 14] at times interfered with by mechanical obstruction,[13] and at times inefficient.[9]

In considering the bactericidal efficiency of the defensive mechanism of the lung, we encounter the bronchoscopically proven clinical fact that infective agents reach the lungs of every human being every minute of his life. He cannot survive without oxygen, the natural source of which is atmospheric, germ-laden air. That no great length of time is possible for filtering or sterilizing processes is shown by the fact that when a lung is suddenly and completely shut off from the atmosphere by occlusion of a main

bronchus by a tightly fitting foreign body, that lung commences to collapse almost immediately, and most of the contained air is absorbed within a day or two.

Under these circumstances, another thing is clinically demonstrated: if the bronchus remains "corked," the normal secretions retained below the obstruction become purulent. This proves a number of things: (1) The deeper air passages contain pyogenic organisms, few as these organisms probably are. (2) There is, normally, a powerful germicidal activity in the lung. (3) The failure of the few remaining organisms to produce pus until the advent of obstruction indicates that aëration and drainage are essential to the efficiency of the normal defensive mechanism of the lungs. The bactericidal power of the lung has been studied experimentally by Stillman,[34] with results of great importance in connection with this subject.

The foregoing considerations of the defensive mechanism of the lung are fundamental in the etiology, prophylaxis, and treatment of post-tonsillectomic pulmonary abscess in cases in which the infection is inspirated into the lung. They do not to the same extent concern etiology or prophylaxis of abscess of hematogenous or direct lymphogenous origin. In the latter class of cases, however, they are probably fundamental to the consideration of treatment, certainly so after the focus of suppuration has reached the bronchi.

Symptomatology and Diagnosis

It seems to me impossible to put into fewer or better selected words the symptomatology and diagnosis of acute pulmonary abscess complicating tonsillectomy than in the following paragraph by Charles W. Richardson:[30]

"The invasion may occur immediately or be delayed three or four days after the operation has been done. If the invasion is apparently delayed, the patient does not do well in the interval between the operation and the first signs of invasion. The actual invasion is usually manifested by a chill or chilly sensation, followed by a rapid rise in the temperature, which immediately assumes a septic character. Pain in some area of the lung is early present. Cough paroxysmal in character is a very early symptom. Odor of the breath first noted by the patient, later by attendants, is quite a characteristic symptom. Profuse, heavy-pus expectoration, which may become rusty as the case progresses. Hemorrhage may occur. Profuse sweating at night. Temperature, pulse, and respiration run in usual ratio. The earliest physical signs are those of an infiltrated area, frequently unrecognizable in the early stages, becoming more clearly defined on successive days. The radiograph gives an absolute picture which cannot be misinterpreted."

This brief and clear statement is applicable to severe and typical cases. There are, probably, a few cases in which the onset occurs later, and the course is relatively mild and gradual.

Diagnostic bronchoscopy is indicated in all cases in which there are symptoms, physical signs, or Roentgen-ray findings indicative of bronchial or pulmonary complications following any operation about the upper air passages. In fact, it is indicated whether the operation has been in this region or elsewhere. The findings of Walter Estell Lee[17] and Gabriel Tucker[18] and Louis H. Clerf[2] have indicated that prompt recourse to bronchoscopy is a life-saving measure, not merely in treatment, but in contributing an accuracy of diagnosis, especially as to the pathology present, obtainable in no other way. The development of bronchoscopic technic, in trained hands, a number of years ago reached the point where it can be resorted to without hesitation as a diagnostic measure.

Mortality

Fetterolf[7] places the mortality in cases of post-tonsillectomic pulmonary abscess between 25 and 50 per cent. Of the cases treated at the Bronchoscopic Clinic, only 2 per cent have died. However, this difference must not be attributed altogether to bronchoscopic aspiration; it is probable that few cases of the fulminant and quickly fatal type reached the Clinic. In no case has a death occurred as the result, direct or indirect, of any bronchoscopic procedure.

Prognosis

Pulmonary abscess from whatever cause it may arise is always a serious disease. When it develops as a complication of tonsillectomy it is usually in its most serious form. The recognized cases are too few to furnish proper data for estimation as to prognosis. It may be stated with certainty, however, that compared to it, foreign-body abscess is relatively a very benign disease.

Prophylaxis

Until a careful "follow-up" system in many large clinics shall have built up a colossal mass of statistics from which all etiologic factors may be determined, prophylactic measures will of necessity be based upon prevention of the transmission of infection by air passages, lymph channels, and blood vessels. As pointed out by Fetterolf and Fox,[6] it would be a mistake to

conclude that the infective agent necessarily reaches the lungs by aspiration. Fortunately, however, all the measures to be taken to prevent inspiration of infective materials are advisable on general surgical principles, and should be carried out even if all the cases of post-tonsillectomic suppuration were of inspiratory origin. Fortunately, also, the measures to be taken to prevent transmission by any one of these routes would not conflict with measures to prevent transmission by the other routes.

Preparation of the patient, general and local, aseptic technic, a minimum of anesthesia, elimination of time wasting, the shortest possible time of operation consistent with good careful work, the avoidance of excessive trauma, the use of the low head position, frequent aspiration of blood and secretions, and many minor details are all endorsed by the surgeons of to-day.

Having overlooked the cases of pulmonary abscess occurring after my own tonsillectomies, and not having done a tonsillar operation for fifteen years, I do not feel qualified to discuss the prophylactic possibilities of surgical technic. These have been considered by a number of authors; notably, Richardson,[31] Fetterolf,[7] Roberts,[32] Voorhees,[35] Richards,[28] Moore.[25]

There is one measure, however, on which I feel qualified to speak, and that is the mechanical removal, by aspiration, of blood and secretions. This cannot be other than a wise precaution. The ordinary aspiration of the pharynx is useful, but it should be supplemented by aspirative cleansing of the laryngopharynx and orifice of the larynx. This can be done most efficiently under guidance of the eye during full exposure of the larynx with the direct laryngoscope. Apart from the matter of infection of the lower passages, this aspiration would seem a wise procedure for the removal of ether-laden secretions, as shown by the writer[11] many years ago.

One prophylactic measure, responsibility for which rests largely upon the pediatrician and the family physician, is to see that tonsillectomy is not done during or too soon after any acute infective disease of the air passages, upper or lower. This includes not only influenza, or la grippe, and similar epidemics, but the common "cold," which is usually, if not always, infective in character. It seems good surgery to postpone operations, not urgent, in the presence of acute inflammatory disease; but here we have often also to consider the effect of anesthesia and its paralysis of the cough reflex, which arrests expulsion of infective agents for a longer or shorter time.

SUGGESTIONS FOR THE STUDY OF PROPHYLAXIS

(1) The problem of prophylaxis calls loudly for further correlated study of the now independent observations of Stillman[34] as to differences in the germicidal powers of the lung in case of different organisms, and of Lott[21] as to the predominance of certain organisms in the production of certain focal phenomena.

(2) In addition to laboratory studies, the noting, before operation, of the Lott[22] palatal zones is called for in every case.

(3) It is essential, for study of the etiology with a view to prophylaxis, that a careful detailed record of operative technic, the extent of operation, anesthetic, sedative, etc., be kept, and that a careful "follow-up" system be efficiently maintained. This is not a new suggestion; but, notwithstanding the fact that such recording is largely a simple clerical matter, the fact remains that it is not persistently and carefully carried on year in and year out, in most clinics. Comparative study of masses of statistics from different clinics and different operators might yield very important data on etiology, which must pave the way for the establishment of efficient prophylactic measures.

TREATMENT

The best interests of the patient will, we think, be served by coöperation of the pediatrician or internist, the family physician, the surgeon, the roentgenologist, and the bronchoscopist.

Medical Treatment. — Careful supervision from the broad viewpoint of the pediatrician, the family physician, and the internist, is of primary importance in every case. We do not feel qualified to discuss medical care in detail.

There is one suggestion, however, that I should like to submit to the judgment of the pediatrician and the internists; namely, that the continual use of antibechics and sedatives, such as codein, heroin, morphin, *et cetera,* be avoided. An occasional dose given for a special purpose probably does no harm; but when we remember that "the cough reflex is the watch dog of the lung,"[14] we will realize that we should not drug the watch dog asleep for any length of time. There are only two physiological means of getting pus out of the bronchi—ciliary action and cough. When we give codein, paregoric, or the like, we favor stagnation, and stagnation is the chief factor in prolonging suppuration to a chronic or a fatal issue. It seems logical to suppose that the more promptly the pus and pathologic secretions are gotten out of the warm, moist, bronchial incubating chamber, the better for the patient. When we are combating puru-

lent stagnation, it seems illogical continually to paralyze the natural means of draining the pus. As all bronchoscopists know, the cough never gets all the pus out, and the foul odor indicates to everyone the same thing; but the expectoration shows that the cough does remove pus, however inefficient bechic expulsion may be.

The foregoing suggestion has been made by the author before[14, 10] and is repeated here, as was previously stated, with all the humility proper to a man who has not, and never had, any experience or ability in medicinal therapeutics.

Surgical Treatment.—The surgeon's experience in suppurative diseases of the chest renders it of utmost importance that he be called in consultation early in the case, not that there will often be a decision to operate early, but that the progress of the case may be followed from the beginning by the surgeon, so that if operation becomes advisable, the best time for it may be selected. The advice of Willy Meyer,[24] a surgeon of large experience in thoracic surgery, is against operation in the incipiency of post-tonsillectomic pulmonary suppuration. When abscess has developed, his results from external surgery have been excellent. He strongly advocates immediate bronchoscopy for diagnosis, and aspiration at the very first sign of bronchial or pulmonary complication. We do not feel qualified to discuss external surgical methods, even if space permitted. It is our practice to call the surgeon at once in consultation. If at any time he decides that the time for external operation has arrived, he is urged to proceed in whatever way he may deem best.

Bronchoscopic Aspiration.—So long as results were obtained by only one or two bronchoscopists, and in only a few cases, no status could be determined for bronchoscopic aspiration and bronchoscopic treatment. But now that results have been obtained in a relatively large number of cases by many different operators, we are able approximately to appraise the value of the method.

While there are many matters in the selection of the case still to be determined, yet it has been demonstrated beyond question that in proper cases it is one of the safest and most efficient means at our command for combating lung suppuration following tonsillectomy. This does not mean that it should be used in every case; nor that it should be used in cases in which external operation is indicated; nor that it should be used to the exclusion of other methods; and it most certainly does not mean that the pediatrician can tell the intern to "put in a bronchoscope" with the same lack of hesitation that he would tell the intern to "put in a needle." It requires more training to do a bronchoscopy than to do a needling; and to do a bronchoscopy for any purpose safely, quickly, and efficiently, in children particularly, requires a great deal of training, much more than is required to do an intubation, and fully as much as is required to do a mastoid operation, though the training is of an entirely different character. In these days of easy transportation, no one thinks of allowing mastoid suppuration in need of drainage to run on for want of an otologist. A bronchoscopic clinic is now available in many large, well-equipped hospitals and will soon be established in all.

The records of cases in which bronchoscopy was used have been published by Tucker, Clerf, Lukens, Moore, Lynah, Yankauer, Kernon, Myershon, Zinn, and others. Grouping these records shows that bronchoscopic aspiration is one of the most important methods we possess for dealing with pulmonary abscess arising from any cause.

A series of most remarkable demonstrations of the value of bronchoscopic aspiration occurred in our clinic. In quite a number of cases of pulmonary abscess apparently cured quickly, the patients were discharged soon after the cessation of purulent expectoration. In a number of these cases, recurrence of purulent expectoration has demonstrated that they were discharged too soon. Normal agencies of pulmonary drainage were not yet able to resume their duties. In ceasing the bronchoscopic aspirations the patient was metaphorically "throwing away his crutches" too soon. In almost all of these cases, a further series of bronchoscopic aspirations ended in ultimate cure.

Not only did we learn from these cases that a patient must be regularly watched to enable the prompt resumption of treatments if necessary, but we had good evidence of the efficiency of bronchoscopic aspiration. Still further evidence was afforded by some of the cases in which bronchoscopic treatment was not immediately resumed. In these cases, the expectoration, at first purulent and rather light in color, soon became darker and increasingly foul. This meant that the chromogenic and saprophytic bacteria had had time to work; in other words, there was stagnation. It is because of the powerful aid in the combating of bronchial stagnation that bronchoscopic aspiration for lung suppuration has been accorded such a high place among the remedial measures available in these distressing and serious conditions. The restoration of efficient peroral drainage is necessary for health of the lung.

Bronchoscopic Medication.—It has not yet been determined how much of the efficiency of bronchoscopic treatment is due to mere aspiration on the one hand and how much to endobronchial medication on the other. Any one who has looked through a bronchoscope into the pools of stagnant secretion in a suppurating lung will agree that, if it were in his own lung, he would want the foul pus pumped out of its intensely inflammatory bed, provided the aspiration could be effected through the mouth and without general anesthesia. It is, mechanically, so easy to apply medication to the interior of the bronchi after bronchoscopic aspiration, that it would seem wrong to neglect local medication which would add but a few seconds to the treatment.

With this in mind, though we all feel that aspiration, by combating stagnation, is the chief factor in the excellent results we have obtained in the bronchoscopic treatment of pulmonary abscess, my associates at the Bronchoscopic Clinic (Tucker, Clerf, Lukens, and Moore) have been testing the efficacy of different remedies and feel that the application of medication shortens more or less the time in which favorable results are obtained. Mercurochrome has been found worthy of continued use, and has largely supplanted other local medications. It is applied with a swab after aspiration of the stagnant pus. Irrigations are not used in acute cases, nor in localized pulmonary abscess, on theoretical grounds.

In some of the old extensive bronchiectatic conditions, irrigation is done with the Lukens-Yankauer return-flow tube that prevents any flooding of the lung and limits the irrigation to the pathologic area.

Conclusions

1. Pulmonary suppuration, usually localized as an abscess, is one of the most serious complications to be considered as a possibility in advising tonsillectomy. It calls urgently for study by the pediatrician as well as by the operator.

2. Its occurrence is so rare, relatively to the number of tonsillectomies done, that it should not be regarded as a contraindication when tonsillectomy is indicated; but the presence of certain conditions may render postponement of tonsillectomy advisable.

3. As indications for postponement of tonsillectomy, the following may be suggested, to be modified as deemed best in the particular case:

(a) The presence of, or convalescence from an acute, subacute, or curable infectious disease of the upper or lower air passages. This category includes acute or subacute rhinitis, nasopharyngitis, laryngitis, tracheitis, bronchitis, tonsillitis, and many other conditions for the prophylaxis of which a tonsillectomy is frequently advisable. Decision as to the best time for an interval operation must be decided in the individual case. The matter of temporary immunity, secondary infections, and other things are to be considered.

(b) Influenza, including all epidemic forms of acute infective inflammatory disorders affecting the air passages (in some individuals, other regions), would render postponement advisable except for urgent reasons.

4. Clinical evidence obtained by many observers, and laboratory study by Fetterolf and Fox, have established the fact that there are two classes of cases in post-tonsillectomic pulmonary suppurations:

(a) Those starting endobronchially and due to infection, either inspirated at operation, or present in the bronchi before operation.

(b) Those starting in the parenchyma of the lung and due to infection carried by infective agents in the lymph stream, or in the blood stream as in an infarct-producing embolus.

5. Every patient on whom tonsillectomy is done should be closely watched for at least a month after the operation.

6. The slightest cough or other sign of bronchial irritation or pulmonary trouble should place the patient in the class of impending pulmonary abscess until proven otherwise.

7. The Roentgen ray is a most important diagnostic means, and is especially called for in every case to exclude the presence of a tooth, fragment of instrument, or other foreign body in the lung.

8. Treatment should be under the care of the internist or pediatrician, with the surgeon and the roentgenologist as consultants.

9. In bronchoscopic aspiration we have a valuable addition to our methods of treatment. It is the most direct method of treating post-tonsillectomic lung suppuration. It should not be used to the exclusion of treatment by the pediatrician or internist, in any case; nor should it be used in cases in which the pediatrician, the internist, and the surgeon think external operation is indicated. Our opinion coincides with that of Willy Meyer that bronchoscopic aspiration is especially indicated at the onset of pulmonary symptoms.

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*SYMPOSIUM ON LATERAL-SINUS THROMBOSIS**

ANATOMY AND ETIOLOGY OF LATERAL-SINUS THROMBOSIS

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The great venous channels at the base of the brain stage an interesting study from the morphologic side alone, but add to this their strategic relation in almost parallel plane to the circle of Willis, the twelve cranial nerves, the great basal ganglia, and the floor of the third ventricle, and their physiologic and pathologic consequence at once appears. The correlation of the terms anatomy and etiology might appear irrelevant, but the purpose of this paper is to discuss and perhaps clarify the anatomic etiology of lateral-sinus phlebitis and thrombosis.

In embryologic formation, the anterior, middle, and cerebral plexuses of veins draining into the middle vein of the head, which is an extension forward of the cardinal vein, gradually coalesce by process of anastomosis and atrophy, following the development of the otic capsule, to form the lateral-sinus trunk which curves outward and downward in the sigmoid groove, and lies adjacent to the developing internal ear and later mastoid cells. The lateral trunks which pass out from the torcular junction to the apex of the petrous position of the temporal bone, turn sharply down with a bend called the knee, where they receive the great petrosal coming back from the cavernous sinus. This knee position is perhaps the most vulnerable spot for perisinuous infection and, as pointed out by Goodyear,[1] the most difficult position of the sinus to uncover, and likely to reveal an area of pachymeningitis externa corresponding to the area of separation.

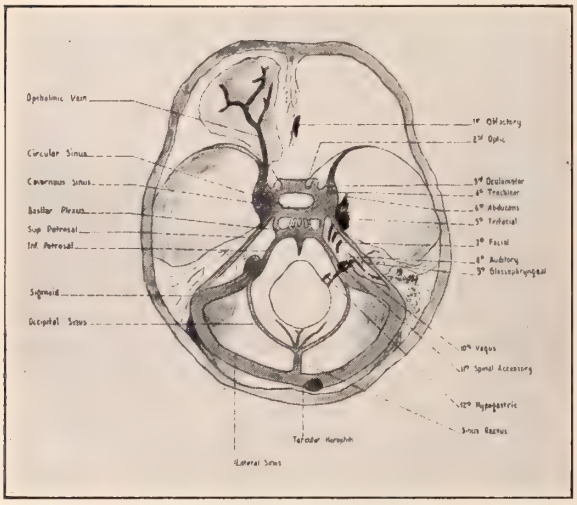
The sinus then curves downward and outward in an S-shaped fashion called the sigmoid, terminating in the bulb of the internal jugular as it leaves the foramen in the posterior fossa of the skull. Here it receives the inferior petrosal after it has passed through the anterior compartment, and this bulbar area, lying directly beneath both mastoid cells and part of the middle ear, is the region likely to be second in vulnerability. The left sigmoid drains the greater amount of blood from the interior of the brain; and the right, from the surface channels, and Barnhill[2] quotes Körner to the effect that the right sigmoid is 2.55 mm. nearer the postmeatal wall than the left.

This is the first point of anatomic etiology and one of paramount importance—the peculiarly vulnerable position of the sigmoid sinus, about a centimeter distant from the suprameatal spine and directly beneath both middle ear and mastoid cells—an invitation alike to cell necrosis and surgical mistake.

It is impossible to analyze this process without some reference to the field of pathology. Whether we adopt the coalescent and hemorrhagic types of mastoiditis so brilliantly demonstrated by Kopetzky,[3] or the suggestive division by Tobey[4] ino the septic explosive, typhoidal, and latent types, the anatomic weakness is the same—a large sinus channel, closely approximating a bone-confined septic area. No other cranial area affords an infective susceptibility similar to that of the ear, where infection can obtain only feeble automatic drainage. Hence, with our acquired knowledge of the metastatic sequence to lung, kidneys, joints, and serous cavities, and the weakness of anatomic defense, it is logical to assume the etiology in sinus invasion, even with many links missing from the diagnostic chain.

The final arrangement of these sinus channels (the wide field of drainage into the superior longitudinal, the important mesial position of the

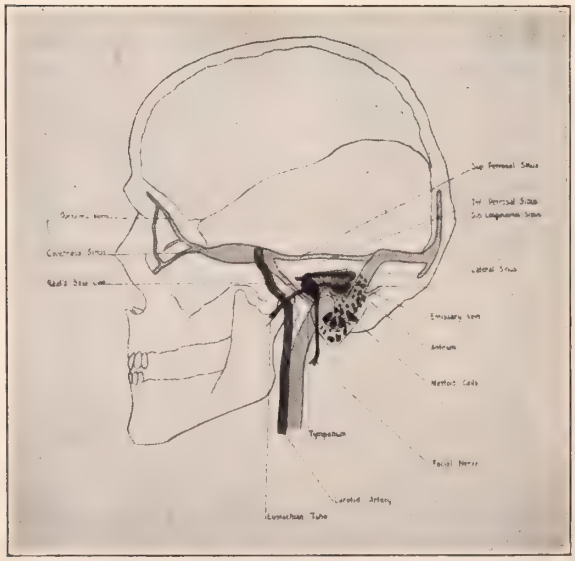
*Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.



Sinuses at the Base of the Brain.

inferior longitudinal and straight, the pivotal position of the cavernous sinus with its prolific geography of tributaries, all forming a continuous circuit via the torcular and the two petrosal sinuses, and terminating in the sigmoid and jugular bulb) renders the problem of etiologic succession a most difficult one.

The thrombophlebitis in and around the lateral sinus represents an anatomic entity (or a pathologic, if you will) which may be entirely secondary in its toxemic significance. The reviews of Dabney[5] and Hempstead[6] on "Idiopathic, or Mastoiditis Without Inflammatory Involvement of the Middle Ear" and the generous discussion following, with equally generous difference in opinion, indicate the possibility of variance from the accepted tympano-antral route. This free correlation of the basal sinuses renders



Position of the Lateral Sinus. (Adapted from Barnhill and Wales.)

the sequence in etiology peculiarly difficult. Whether primary mastoiditis and thrombosis can or cannot be demonstrated, the point at issue remains the same: this inter-communicating system with liberal emissary outlets must indicate the frequent possibility of infective transmission both backward and forward, and may even permit involvement of the sigmoid on the other side. The local thrombus may be locally basic to an entirely distant or modified series of pathologic events, or, on the other hand, may follow some blood-stream bacteremia, the elimination of whose focus will allow it to become self-determinative. A brain abscess may be of months' duration. Deep-seated neuralgias may long antedate their proved relation to mastoid and thrombotic area. An intratympanic infection sufficient to cause inflammatory block in the antrum may escape notice in examination, yet may be able to effect an entrance through lymphatic channels, to sinus or bulbar areas.

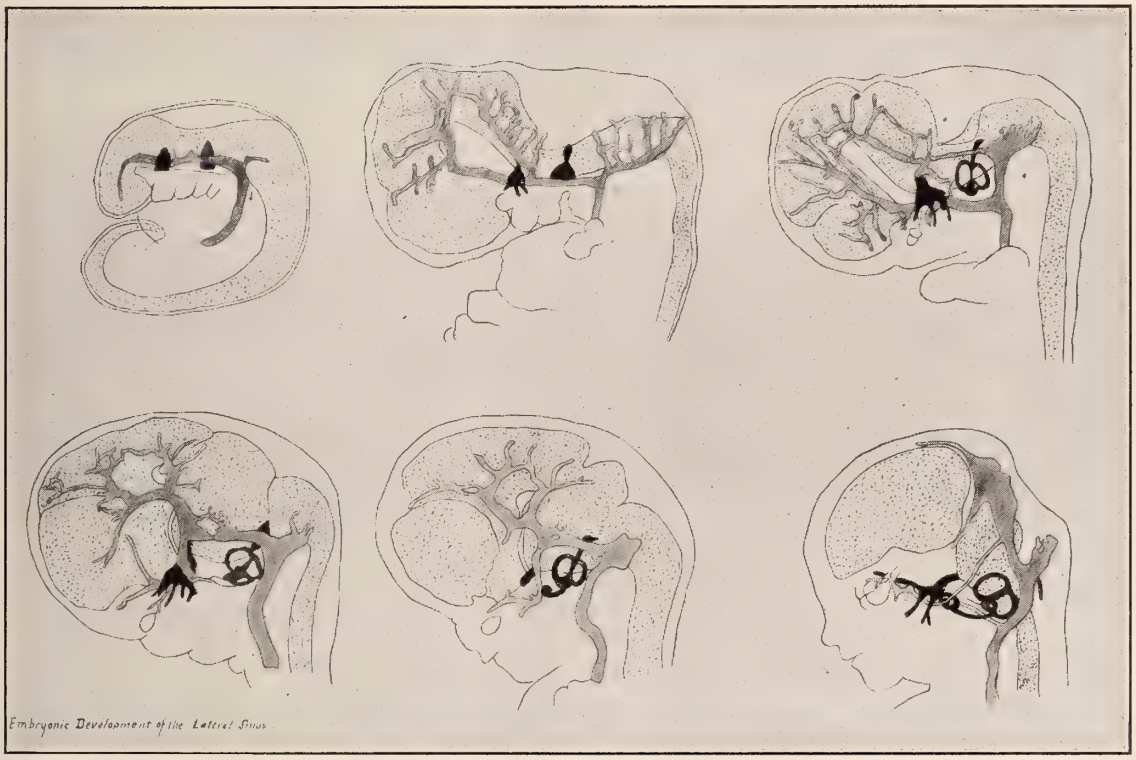
Next in order should be considered the more intimate anatomic paths for invasion. Phillips[7] has classified these as (1) bone dehiscence, (2) direct extension from purulent bone lesion, (3) through the smaller veins or intermediate anastomotic veins.

The results of dehiscence in the internal wall of the auditory meatus are familiar. The less than a line of bony thickness in the fossa auditoria at birth suggests the meaning of later occasional results in middle-ear traumatism. The thinning and even denudation of tegmen and sinus plate found at time of mastoid operation are etiologically significant. Of equal or greater importance are the series of emissary outlets draining into the sinuses at various points, and extending to the outer cranial surface, particularly in parietal, mastoid, and condyloid areas. Most consequential to this discussion are the mastoid emissary and smaller mastoid veins directly conveying infection to the sigmoid or being minutely thrombotic themselves. The mastoid emissary coming out from the mastoid foramen is so favorably situated as to be diagnostic as well as etiologic in importance, and MacCuen Smith[8] has cautioned against its operative injury as favoring extension necrosis. These small emissaries have a functional purpose, but likewise afford an opportune channel for invasion.

Perhaps more emphasis should be placed here on the hemorrhagic type of case. Symptomatology may be most indefinite, and any sinus indication equally atypical; but this type may be finely thrombotic throughout its structure, with cell partitions thickened and fuzzy, yet without the presence of a true cavity formation

containing pus. It may readily be a fulminating type with early blood-stream toxemia. The valveless character of the cerebral veins undoubtedly adds to the danger. There has been too little discussion of the lymphatic contribution. With the abundance of mucous membrane present and the proximity of superficial and even deep nodes, infection should easily be transmitted. Furunculosis of the canal and broken-down postauricular glands have possibly found their anatomic outlet to the sigmoid, but their part in etiology has been reasonably apparent.

occurred at the time of postoperative dressings, which suggests another etiologic probability, as in the face of certain types of active streptococcic infection with feeble resistance, every interference surgically is followed by a reaction more or less intense. The mastoid wound presents occasionally just such variant history, and with a feeble border-line reaction, extensive surgery may set up a fresh etiologic succession in the emissary channels offended. The defense barriers partake of the nature of a secondary anatomy, and their ability to withstand further invasion until immunity is established will prob-



Embryonic Development of the Lateral Sinus. (Adapted from Gray-Streeter.)

A much more difficult etiology to establish is the direct infection to the bulb which has been reported by various writers, but, as cited above, its anatomic position renders this possible. If the original focus has become quiescent, as in middle-ear infection whose discharge has ceased and the tympanic membrane healed, the connection is difficult to trace. Still more obscure would be direct extension from the labyrinth, as asserted by Boenninghaus[9]. Such an extension could easily occur through the internal auditory vein. Foreign bodies in the auditory canal have been forcibly removed with penetration of the posterior tympanic wall and direct bulbar extension. Lillie[10] cites four interesting cases in which a bacterial shower into the blood stream

ably account for the so-called self-terminative cases. In these cases, the thrombotic mass, which may have even contributed an active bacteremia, becomes walled off by the secondary structural defense of fibrin clots in either end of the sinus.

In study of bacterial strains, the Streptococcus hemolyticus would be accorded a predominant place. Other organisms, such as the pneumococcus, streptococcus viridans, and staphylococcus, are frequently reported. Kopetzky, quoted above, asserts that 75% of his reported cases of hemorrhagic mastoiditis followed sore throat or influenzal infection. The failure to obtain positive blood culture even on repeated attempts, does not eliminate the pos-

sibility of blood-stream etiology, especially when other concurrent or metastatic systemic disease is present. It is interesting to note in his report that a perisinuous abscess was present in only nine per cent of these hemorrhagic-type cases.

The Roentgen-ray examination renders definite aid in a certain number of cases in determining the anatomic etiology. In one of my cases, the mastoid emissary was clearly demonstrated; and in another, very definite changes in the sinus-wall structure of the affected side. Necrosis of cells extending into the zygoma and the demonstration of a cholesteatomatous mass in the antrum, present very definite causal phases. This depends, of course, upon careful comparison with the unaffected side.

External as well as intratympanic and surgical traumatism must also have a place in the etiologic review. In one of my cases recently reported, a boy of nine with a suppurative middle ear since childhood and four major crises (after pneumonia, "flu," scarlet fever, and whooping cough, according to the report of the mother), entered the hospital with a serious, almost fatal case of infective sinus thrombosis, due to a blow on the ear in school punishment. In such cases of traumatic injury, the condition may remain latent for a time, resembling the marasmic or typhoidal type. The primary cause may even be disregarded, and yet the sequence be a fulminating type.

In a final analysis, there must be included the type due to a debilitated state in which a low-grade infection fails to obtain sufficient or proper time immunity. Such cases may be complicated by other systemic infections sequent to or independent of the blood-stream bacteremia The influenzal infection would seem a predominating background. The confusion of symptoms in cases of coincident tuberculosis and sinus thrombosis, while most pertinent in relation, belong more properly to diagnosis.

An attempt has been made in this brief paper to review the positional influences leading to sigmoid-sinus infection, and in so doing to dispel the customary assumption that adjacent cellular necrosis in the mastoid field is wholly responsible. That this course more often obtains will scarcely be questioned, but it is far from invariable, and the newer light on the pathology of round-cell hemorrhagic infiltration without destruction of bony partitions in the mastoid cavity, would negate the privilege of awaiting a definite liquifaction necrosis before resorting to the knife. To delay treatment of sinus thrombosis for full diagnosis would, as in brain abscess, most frequently induce a dangerous delay. The pathways, as cited above, are too numerous, including dehiscences in development as well as necrotic change, the mastoid emissary and other minor veins, the thinness of the tympanic floor and tegmen, the active lymphatics in the presence of multiplied leukocyte carriers, the auditory veins emerging from the internal auditory meatus and terminating in the transverse or petrosal sinus, the vein of the aqueductus cochleæ, emerging at its external aperture, and the deep veins of the tympanic membrane draining at least partly into the transverse (lateral) sinus. Add to this labyrinth of pathways the to-and-fro possibilities of general blood-stream infection, and the composite lends boldness to the assertion that from the standpoint of anatomic etiology, early interference is more than justified.

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PATHOLOGY, DIAGNOSIS, AND DIFFERENTIAL DIAGNOSIS OF LATERAL-SINUS THROMBOSIS

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SYMPTOMS AND PATHOLOGY

In the majority of cases of thrombophlebitis of the ear, the symptoms and pathology of lateral-sinus infection are so characteristic and clearly defined that a mistaken diagnosis of this by no means uncommon affection would seem to be almost impossible. But errors in diagnosis have, however, occurred, and unfortunately will happen again, perhaps in a beloved member of our own family or in an influential patient in whom we are especially interested, unless the true significance of middle-ear suppuration with mastoid involvement is clearly and early recognized, the impending danger of intracranial complications considered, and appropriate treatment promptly instituted in time to prevent a fatal termination, especially by infection of the lateral sinus and the resulting septic sinus thrombosis.

Aural thrombophlebitis would be largely preventable were middle-ear suppuration regarded more seriously by the general practitioner, for otitis media in any of its various stages is a real

menace to the welfare and life of the patient from its inception till after the ear has ceased to discharge. It is well to reiterate here that the error is widespread of waiting for the so-called classical signs of mastoiditis to appear (namely, swelling, redness, and tenderness over the mastoid) before operating, because when they do make their appearance, these unmistakable signs of an inflammatory process going on within the ear must be considered as affording a favorable prognosis. This is nature's method of confining the pus in a situation less harmful to the patient, at least for the time being, than if it had progressed inward towards the vital structures adjacent to the brain.

Typical cases of septic lateral-sinus thrombosis as described in the textbooks are of a type more or less familiar to every one, namely: (1) a history of middle-ear suppuration, be it of either the acute or the chronic type; (2) the severe chills and fever with marked elevations and remissions of the temperature—the so-called pump-handle or steeple-jack temperature; (3) the septic manifestations; (4) the listless, apathetic appearance of the patient; (5) the probable presence of choked disc, which occurs, according to various authors, in from ten to fifty per cent of all cases; (6) the clear mentality of the patient to the approaching coma preceding death.

It is the atypical cases of thrombophlebitis that are not adequately described in the textbooks. They might be called the masked, or symptomless, varieties of mastoiditis, and no one would suspect involvement of the lateral sinus. There may be, in such instances, a slight otorrhea, or the discharge may have ceased long since. Perhaps there may never have been a discharge from the ear noticeable to the patient; or there may be a profuse or an intermittent discharge. Should the discharge be present, possibly the odor is offensive. The patients may or may not have headache; the hearing may or may not be impaired; chills, or chilly sensations may or may not be present, the patients going about their usual vocations, and with no perceptible elevation of temperature.

With your indulgence, I shall describe briefly several of these atypical cases, the better to illustrate how deceptive they are, and how readily they are overlooked and remain unsuspected. The moral, however, should be that all forms of otorrhea, acute or chronic, should be regarded as the forerunner of impending danger, the offending ear being allowed no quarter until the disease has been eradicated or rendered inert by medication or by surgical intervention.

Case 1.—A. S., a boy, aged 12, had had chronic otorrhea for ten years as a sequel to measles. This had reached a state of quiesence, although the eardrum was completely destroyed and the ossicles obliterated. Except for an occasional discharge, there was not the slightest inconvenience. The hearing, while impaired, was not a handicap to his schooling. He went about as any normal boy of his age. A fall on the ice, in which his head was struck a violent blow, rendered him unconscious, and when received in the Jefferson Hospital he was semiconscious and in a delirious condition, with a symptom-complex indicating intracranial complications, the chief of which was meningitis. A radical mastoid operation failed to disclose sufficient pathology in the mastoid to justify the severe symptoms, and the bony wall of the lateral sinus was removed. There, only a large encapsulated abscess was discovered with complete disintegration of the sinus wall. So great was the intracranial pressure that a unilateral subtentorial cerebellar decompression was done. The patient succumbed forty-eight hours after the operation to a diffused septic meningitis in consequence of the rupture of the encapsulated abscess originally caused by a septic sinus thrombosis. Truly this patient had gone around with dynamite in his ear, figuratively speaking, awaiting the blow to cause the disaster which ended in his death.

Case 2.—H. C., male, aged 30, a plumber and pipe fitter by trade, had an intermittent, discharging ear since boyhood. The cause of the otorrhea was unknown. Several years before admission to the Jefferson Hospital he had what was thought to be an attack of typhoid-malaria, from which he eventually recovered after a long illness. In this case, it is interesting to note that in the two years prior to admission no less than seven different operations had been performed, consisting of submucous, turbinectomy, tonsillectomy, adenectomy, removal of polypoids from the auditory canal, curettement of the middle ear, and on two occasions incisions back of the ear for two separate "so-called" mastoid operations. Diagnosis on admission to the hospital was cerebral syphilis. When the patient was transferred to the otological department, he was unable to walk or to sit up in bed. In fact, he was strapped in bed, because of his vertigo and a muttering delirium. He was semiconscious at short intervals, but was unable to articulate.

Intracranial complication was manifestly secondary to purulent otorrhea and chronic mastoiditis. A radical mastoid operation was done, with complete obliteration of the walls of the lateral sinus and evacuation of a cerebellar abscess with a sequestrum of the labyrinth. The patient's recovery was rather protracted, as he remained in the hospital for four months. He is now, five years after the operation, in excellent health, and works every day.

That so many different varieties of operations were performed on the patient shows the difficulty of making a proper diagnosis if the case is of an atypical character.†

Case 3.—A. D., a girl, aged 18, showed a chronic purulent otitis of the left side, there having been a continuous discharge since childhood. She was brought to the hospital for a night operation with a temperature of 103° F., having just had a severe chill. When first seen, there had been a sudden cessation of the discharge and some swelling of the neck, due to an erosion through the tip of the mastoid. The swelling

†These cases were reported before the Laryngological Society of Philadelphia and appeared in the *Laryngoscope*.

extended over the occipital region, the tissue over the mastoid being very thick and edematous. At operation, the cortex was found to be irregular, thick in the upper half, thin and bleeding in the lower half. Free pus flowed through the incision of the soft tissues. The mastoid cells were soft and necrotic, and there was a great quantity of cholesteatoma packed in the tympanic cavity and antrum and upper portion of the mastoid. There was a small necrotic erosion in the middle fossa. The tip likewise was very necrotic. The muscle attachment was a mass of granulations, the promontory being destroyed, and the eustachian tube was packed with cholesteatoma. The bone covering the lateral sinus showed active hemorrhagic osteomyelitis.

The lateral sinus was uncovered through its course in the mastoid. The sinus wall was diseased, and it appeared as though there was a partial clot. Due to the prolonged and extensive radical mastoid operation and the condition of the patient, it was decided to await developments before operating on the infected sinus, as the leukocytes were only 12 000 in number, and the patient had had only the one severe chill, with marked elevation of temperature.

It is interesting to note that in this case there was no pain until the cessation of the discharge, the pain having continued for three weeks before the swelling began. The culture showed no growth after five days of incubation. This patient left the hospital on the seventh day, and has been in excellent health ever since.

CASE 4.—M. G., a girl, aged 17, when first seen, came to my office with an older sister. There was a decided impairment of mentality, the pupils being widely dilated. The history included an attack of typhoid fever between three and four years previous, complicated with otitis media, which latter became chronic, the otorrhea continuing until a year before. A thick, yellow, foul-smelling pus was present, with severe pain extending to the top of the head, increased on pressure over the mastoid. The head pains were continuous. There was an organic heart lesion. The function of hearing in the affected ear was completely lost.

At operation, the mastoid cortex was found to be partly sclerotic, and other portions were porous and oozed blood. The mastoid tip was short and shallow; the antrum, large and filled with granulations, there being a large quantity of cholesteatoma and pus under pressure. The ossicles and ear drum were destroyed. There was a small exposure of the dura in the posterior, superior portion of the mastoid. The necrosis led direct to a large perisinuous abscess. Upon exposure of the sinus, it was observed that the walls were disintegrated into a granular formation of connective tissue, around which pus exuded. In the absence of acute septic infection, as manifested by high and irregular temperature, the old sinus wall was not disturbed. After the operation, the patient had no recollection of the visit or of the conversation, nor did she remember when or how she entered the hospital, or being on the operating table. Following the radical mastoid, however, she was mildly delirious, the chief manifestations of which were incessant talking and severe headache. On the eleventh day after the operation, she realized for the first time that she was in the hospital and had had an operation. This patient made a rapid and uneventful recovery.

CASE 5.—H. L., male, aged 31. The diagnosis was right chronic purulent otitis media, with a slight intermission for the past eight or nine years. There had been an acute exacerbation for the past three weeks, accompanied by general headache and pains in the neck. During these acute attacks, the temperature would rise to 103° F., with chills, sweats, and rigors. The hearing was practically lost. The malleus was present, though only a fragment of the eardrum remained. A dry, flaky scale was seen through the opening of the eardrum.

At operation, the periosteum was very adherent, the cortex eburnated, thick, and irregular. Directly under the cortex was a light, glistening mass composed of an accumulation of cholesteatomata eroding through the cortex. The entire cellular structure of the mastoid was destroyed, and the cavity was packed with the largest amount of cholesteatomata which I have ever seen, except in a case of Dr. S. MacCuen Smith's, where a very large mass occupied the middle fossa. The lateral sinus was obliterated, except for the irregular granular end on the posterior border of the mastoid. The entire base of the petrosa was destroyed, the bone being absorbed by the pressure necrosis, allowing a free view of the lateral surface of the cerebellum. A right-sided, subtentorial cerebellar decompression was performed, at which time the dura was found to be white and glistening, owing to the fibrous-tissue change. There also was an erosion through the middle fossa, the size of a finger nail, over the tegmen antri. The destruction of the osseous structure was so great that the horizontal canal was not located. The cholesteatoma eroded through the posterior meatal wall into the petrous pyramid under the facial canal to the extent of destroying the canal, the facial nerve lying exposed in this cholesteatomatous mass. The nerve was thickened and appeared somewhat edematous. Touching the nerve, which was exposed for 5/16 of an inch, with the edge of the curette, caused the side of the mouth and face to twitch. It is interesting to note that although the facial nerve was lying in this mass of cholesteatomata, it did not result in facial paralysis. The promonotory did not appear to be involved. The patient made an uninterrupted recovery.

CASE 6.—A. B., male, aged 43. The diagnosis was acute otitis media, with acute mastoiditis of nine weeks' duration. The eardrum had been allowed to burst spontaneously after three days of intense suffering. The discharge was thick and creamy. There was swelling of the left side of the head, extending over the cheek and down the neck, with great tenderness over the mastoid. His fever ranged from 101° to 103° F., and he had had one chill.

At operation, the cortex oozed blood freely. It was thick and somewhat eburnated. The antrum was deep and high, the cells deploic in type, except for one large cell which occupied the space between the sinus and the tip. At this space there was observed a large perisinuous abscess. Pus was found in abundance throughout the entire mastoid and antrum, and there was a general hemorrhagic osteomyelitis. A perceptible clot in the sinus was palpated. Owing to the extreme shock of the patient it was deemed advisable to do a two-stage operation if necessary, rather than to hazard his life by an internal jugular ligation, or to open the vein and clear out the clot. This patient's recovery was rather prolonged, but he left the hospital on the tenth day, and now has returned to work.

The clot in the vein eroded through the sinus wall externally and discharged through the mastoid wound, as he did not have any further elevation of temperature or chills, and his recovery was uneventful. It would seem that nature had walled off the lateral sinus, and probably did a better operation than could have been done by the surgeon. While there was considerable risk

in adopting this course, yet the patient was under constant observation and we were prepared to do a ligation of the internal jugular at short notice if the occasion so demanded.

In the differential diagnosis of thrombophlebitis and those diseases in which the symptoms in certain stages of the fever are closely allied, as typhoid and malarial fevers, pneumonia, acute tuberculosis, and acute articular rheumatism, there should be a careful examination made of the ears for evidence of pus or of a previous suppurative process. The patients' histories of ear disease cannot be relied upon. Experience proves that they do not understand the significance of a discharging ear.

Differential Diagnosis

Lateral-Sinus Infection

1. A discharging ear, usually of the chronic type.
2. Sudden elevation of temperature, with sudden remissions to normal or nearly normal.
3. Pronounced chill, followed with great prostration, profuse sweats, and rigors.
4. High leukocyte count with correspondingly high polymorphonuclear percentage.
5. Patient is more alert and not likely to be delirious.
6. Emaciation less noticeable unless patient should linger.
7. If cough is present, it is usually due to an infarct or metastatic embolism of the lung, which is revealed by physical examination.
8. Headache is usually present.
9. Pulse and temperature are in direct ratio.

Typhoid Fever

1. Absence of a discharge from the ear.
2. The prodromal stage of the fever presents a gradually ascending temperature, with remissions not so marked and abrupt.
3. May have chilly sensations, prostrations, and sweating, not so great.
4. Leukocyte count possibly below normal.
5. Patient is apathetic and delirium prevails.
6. Emaciation more pronounced.
7. There may be a dry, hacking cough, throaty in character.
8. More persistent headache and epistaxis are frequently associated in typhoid fever.
9. The pulse is comparatively slow in proportion to the high temperature.
10. Widal's blood test is positive.

Malarial Fever

1. Absence of discharge from the ears.
2. Sudden elevation of temperature, with associated severe chill at onset. There is a certain regularity to the chills and the rise and fall of the temperature.
3. Prostration not so pronounced.
4. No marked increase in the leukocyte count.
5. Clear mentality.
6. The patient lacks the sepsis usually associated with thrombophlebitis.
7. Malarial organisms in the blood are revealed by examination.
8. Quinin as a therapeutic test.

Pneumonia

1. Absence of otorrhea.
2. High temperature, which remains high or with slight remissions.
3. Onset ushered in with severe chill, rapid respiration, and evidence of profound illness.
4. The patient is septic but this is not so pronounced.
5. Physical signs of lung involvement.
6. The pneumococcus is found in the sputum.

Articular Rheumatism

1. Absence of otorrhea.
2. Rather high intermittent fever.
3. Free sweating.
4. Evidence of focal infection.
5. Mentality clear.
6. Painful joints, and stiffness.
7. No cough.

Acute Tuberculosis

1. Absence of otorrhea.
2. Persistently high, fluctuating temperature.
3. Absence of severe chill.
4. General weakness, but not marked prostration. While there is free sweating, it is not so profuse and prostration not so great.
5. General mentality clear.
6. The patient does not have the septic manifestations.
7. Physical signs of the chest, as revealed by percussion and auscultation.
8. X-ray findings of the chest.
9. Examination of the sputum for tubercle baccilli is positive.

Summary

(1) Sinus thrombosis is, to a very great degree, a preventable disease (with rare exceptions) if early drainage is provided by a myringotomy or mastoid operation, or both.

(2) The symptoms in a typical case of an infectious thrombosis are characteristic. The diagnosis is readily made if middle-ear suppuration is given due consideration.

(3) In the atypical case, the sinus may be partly or completely obstructed with a clot, either infected or sterile. It is well to remember that a septic clot may become sterile, and there may be very few or no manifest symptoms.

(4) There is connective-tissue regeneration of the vessel wall after evacuation of the septic clot.

(5) It is unfortunate that a chronic purulent discharging ear gives few symptoms, especially that of pain. Were this symptom present, the patient would seek immediate relief, and there would be fewer complications.

(6) Surgical procedure at the earliest possible moment is the most rational and the safest course to pursue.

TREATMENT OF LATERAL-SINUS THROMBOSIS

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Preventive Treatment

Since lateral-sinus thrombosis almost always follows extension of the infection through the

mastoid bone, preventive treatment properly begins with the hygienic measures which check acute infections of the nasopharyngeal mucous membrane, thus averting acute otitis media.

When persistent chronic otitis media has been established, or when acute mastoiditis exists, early surgical removal of the infection confined in the mastoid is essential to protect the lateral sinus. In nearly all cases, the infection extends by direct continuity through the mastoid bone.

Ballance[1] has wisely said, "The fate of many of these cases lies in the hands of the general practitioner, who should be alive to their gravity and lose no time in seeking such aid as may be necessary for dealing with them."

The most important single factor in the prevention of lateral-sinus thrombosis, is the mastoid operation. In many cases, even when the necrosis has extended to and involved the sinus plate and the pus has come in contact with the venous wall, the extension of the infection will be stopped by the removal of the local area. In such cases, the necrotic plate should be thoroughly removed, including the healthy bone, until an area of normal color of the sinus vein appears on all sides. It is unwise to disturb any granulations if found upon the sinus; they may be the sole protecting wall for the inside of the sinus. Manipulations of any kind are contraindicated in these cases. Undoubtedly, many patients with an already beginning infection of the interior of the vein overcome the infection if the external cause is removed.

That the sinus has great power of resisting infection is a well-known fact. Barnhill[2] demonstrated this by his experiment upon dogs several years ago. He was unable to infect the interior of the sinus, even after it was punctured with a needle, by applying the most infectious organisms directly in contact with the venous wall. Cotton and other materials saturated with the organisms were held in contact with the vein for several days by suturing the wound over them.

Operative Treatment

In the presence of sufficient evidence to suggest infectious sinus phlebitis, surgical treatment is the only safe course open to the surgeon. He has two requirements to fulfill: removal of the cause of infection, and prevention of the discharge of the infectious material into the general circulation through the jugular vein. The first is met through mastoid operation (which removes all infection surrounding the sinus) and exposure of, and excision of the sinus wall throughout the diseased area, so as to provide free drainage; the second, through blocking off from the general circulation, by ligation, of the jugular vein of the affected side.

Operation Upon the Sinus

Freshly sterilized towels, gloves, and instruments should replace those already in use. Before an attempt is made to incise the sinus, the bony plate should be thoroughly removed from above the knee of the sinus to the beginning of the anterior curve below, before the sinus enters the jugular bulb, and throughout the width of the sinus. To facilitate the safe exposure and opening of the sinus, plenty of room should be provided in the bony mastoid cavity. Especially, posterior to the sinus should the cortex and cells be lowered (Fig. 1).

The final thinning of the bone over the sinus is best accomplished by the use of a broad curet. This instrument may be used to reduce a small area of bone over the knee until the venous wall appears.

A more rapid and accurate method in experienced hands for the removal of the initial portion of the sinus plate is with a flat chisel about ¼ inch in width (Fig. 2). The chisel is usually more easily manipulated by beginning from behind. The flat surface should be placed against the sinus groove with just enough elevation of the handle to cause the sharp edge to engage the bone slightly when the chisel is lightly tapped. The bone thus engaged is lifted by lowering the

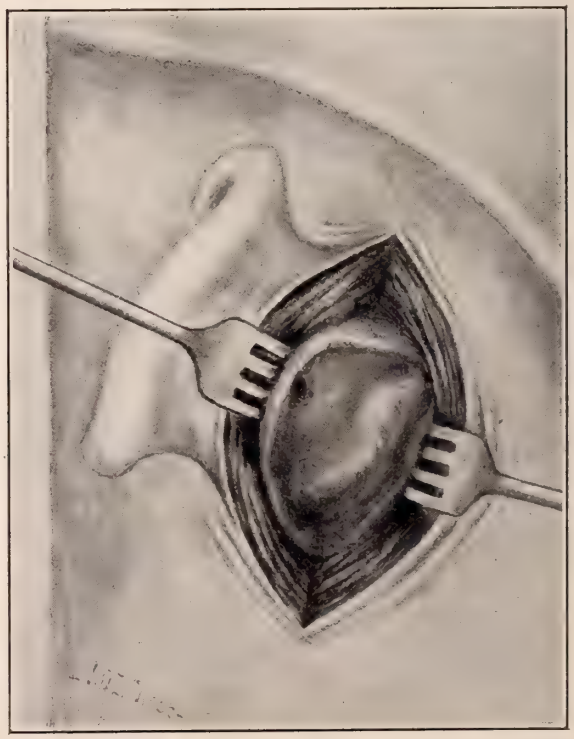


Fig. 1. Showing the sinus groove clearly outlined from the knee to just above the jugular bulb.

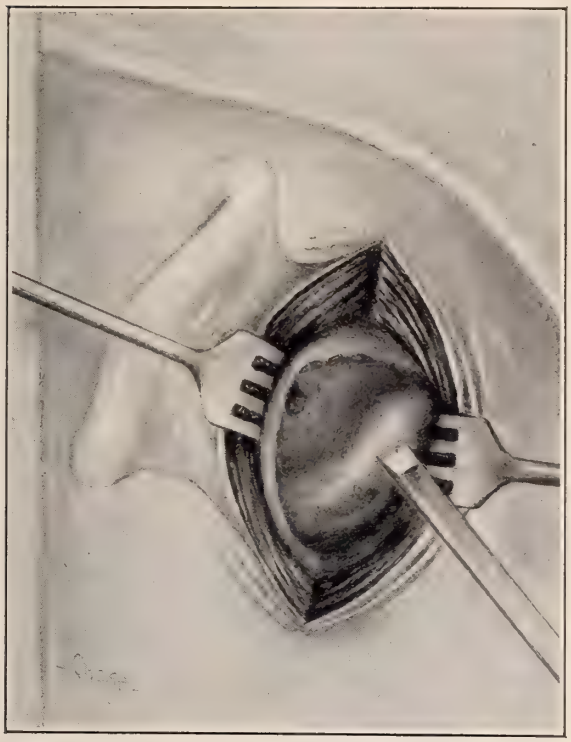


Fig. 2. Position of the chisel for removing initial portion of the sinus plate.

handle of the chisel, and carefully removed with forceps. Before removing more bone, it is well to pass a blunt dissector (Alport's blunt dissector) under the bony wall for a short distance, to detect, and if found, to break up any adhesions between the vein and the bone.

The remainder of the bone can be more quickly removed with safety if a small curved rongeur with blunt, rounded tips is used (Fig. 3). The lower blade is carefully introduced underneath the bony plate for a short space, thus aiding as a dissector. Before the bite is taken, the blades should be retracted slightly to prevent punching of the venous wall. The full area should thus be exposed.

Extreme care should be exercised in the above procedure, as an accidental opening of the sinus before it is freely exposed may cause considerable difficulty in continuing the operation.

Having exposed the sinus and determined to open the vein, it is best to make a free incision, as only in this way can the inside of the sinus be inspected and small clots discovered.

Several small, hard-rolled pledgets of iodoform gauze, about the size of a lead pencil and about ⅜ of an inch in length, should be prepared to control the bleeding. It is advisable to have several larger pledgets of iodoform gauze folded on the flat, about one inch square and one-eighth inch thick for emergency use. An assistant, with a pair of dressing forceps in each hand, holds the rounded pledgets of gauze in the tips of the forceps at the upper and lower extremities of the uncovered sinus, ready to exert pressure should bleeding occur when the sinus is opened. The sinus is then opened with a scalpel, by making a short incision in the center of the outer wall. If bleeding does not occur, no pressure is made, and the incision is extended in both directions with a pair of blunt-pointed scissors. If free bleeding occurs at the time of the first incision, pressure is at once exerted above and below by the assistant (Fig. 4), after which the surgeon enlarges his incision as above, and dissects away the outer walls of the exposed vein. The pressure from the upper end is then gradually released, and if bleeding occurs, time enough (two or three seconds) is allowed to determine if the bleeding is free and normal. If so, this end of the sinus is plugged with iodoform gauze. If bleeding does not occur from the upper end, the bony wall covering the sinus towards the torcular, should be removed further and the sinus opened until the clot is found. In this way, the operator makes an open wound, allowing himself full view of the field and giving much better chances for drainage, than by trying blindly to remove the clot.

After the upper end has been treated, the plug at the bulbar extremity should be re-

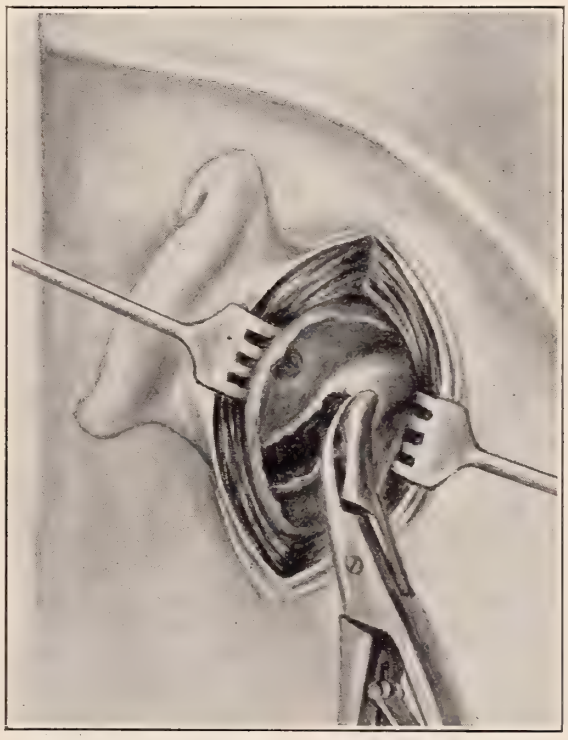


Fig. 3. Use of the rongeurs for removing bony plate of sinus.

leased. If free bleeding does not occur, the clot should be removed carefully with a blunt flexible-shanked curet, or with an ingenious suction apparatus devised by Day[3] for this purpose.

No attempt should be made to remove the clot from the bulbar end without first ligating the internal jugular vein. If bleeding does not occur from the bulb after careful removal of the clot, a narrow strip of iodoform gauze is inserted into the bulb from the mastoid wound, which acts as a drain and should be replaced daily until healing takes place.

When free bleeding from the sinus takes place, it is best not to remove the dressing for six or seven days, unless unfavorable symptoms develop. If the dressing is removed earlier, troublesome bleeding is apt to occur.

If the infection in the bulb is so severe as to warrant, the bulb may be exposed by connecting the incision in the neck with the mastoid wound, and the bulb may be entered. Fortunately, this formidable operation is rarely necessary.

Ballance[2] advises bringing the upper end of the divided jugular vein out through the wound in the neck, thus giving a natural drain downward from the bulb. He also advises against leaving the ligature upon the upper segment of the vein for more than a few hours, or it will become a "test tube of pus" and may infect the petrosal and so the cavernous sinus.

Through-and-through irrigation is advised by some authors. In cases where infection persists in the bulb, daily attempts are made by placing the tip of a syringe containing normal salt solution into the end of the vein which has been brought out through the wound in the neck, and by exerting gentle pressure, to cause a flow upward through the bulb into the mastoid wound. Little more can be hoped for in this method than from drains placed into the bulb from above. The discomfort to the patient and the danger of disseminating the infection have always seemed to me to overshadow any benefit which might be derived from it.

Treatment of the Jugular Vein

Theoretically, the jugular vein should be ligated before any manipulation of the infected sinus is attempted. The cases, unfortunately, are rare in which the experienced surgeon can diagnose infection of the sinus before inspection and incision. Even inspection of the sinus, except where ulcerations of the walls are found, cannot positively determine disease of the interior. In only 2 of 38 cases have I ligated the jugular before opening the sinus, and while these cases recovered, in the light of my present experience, I should not feel the same competence. I have never observed unfavorable results in cases where inspection of the interior of the sinus was first made. Many times, where infectious sinus thrombosis is suspected at the time of operation, the judgment of the surgeon prompts him to wait a few days, which can usually be done without harm to the patient, before ligating the jugular vein.

Identical symptoms, i. e., septic temperature, chills, positive blood culture, etc., can be caused by obscure intercurrent disease complicating mastoiditis.

It is my practice to consider three methods for treatment of the jugular vein, depending upon the extent of the pathological process:

(1) Those cases which have not shown symptoms of a general infection previous to operation, but in which a diseased sinus is discovered. The diseased walls of the vein are carefully dissected away, the cavity gently irrigated and lightly packed for drainage. Nature has here most likely already limited the pathological process by forming sterile organized clots above and below. The jugular is not ligated, but the patient is watched for symptoms of breaking down of the clot and blood-stream infection. If such symptoms develop later, the jugular is ligated and the clot removed from the sinus.

(2) The cases which have developed symptoms of acute septicemia or pyemia previous to operation. As soon as disease of the sinus is determined, the jugular is ligated at once to limit the infecting process.

(3) The cases of class 2 in which, when the jugular vein is exposed, it is determined by the finding of a clot in the vein or inflammatory adhesion surrounding the vein that the pathological process has extended farther. The vein is then dissected out to the lower limit in the neck.

When the vein is not diseased, simple ligation is preferable because of the time saved and the smaller scar resulting in the neck. Beginning just below the region of the mastoid tip, a two-inch incision is made extending downward along the anterior border of the sterno-mastoid muscle. Through this incision, the internal jugular vein is exposed by dry dissection, doubly ligated above the facial vein with chromicised catgut, and divided between the ligatures.

Intravenous Therapy

The two agents being most used for this purpose at present are, mercurochrome-220 soluble, and blood transfusion.

Blood transfusion has proved to be of un-

doubted value in aiding the patient to combat blood-stream infections. Little danger is incurred in its use if the proper type of blood is used, and the method of administration left to one who is expert in this line.

Mercurochrome-220 soluble is given in doses of 5 mg. per kilogram of body weight. This amounts to about 23 c.c. of a 1% solution to each 100 pounds of body weight. The dose should be relatively smaller in children. The dose is repeated every second day, depending upon the reaction.

Porter[4] prefers to give smaller doses (about 3 mg. per kilo. of body weight). He believes that the reaction so much dreaded by those using the drug is caused, not by the mercurochrome, but by the liberation of the toxins from the killed bacteria in the circulation.

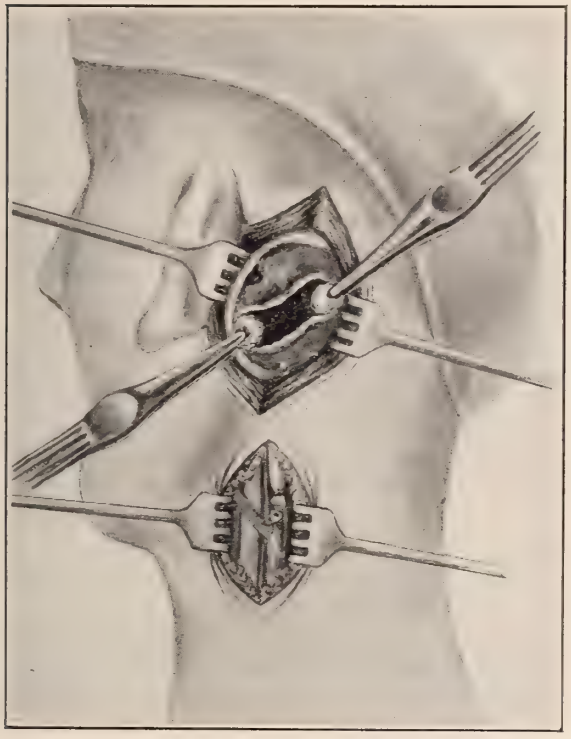


Fig. 4. (a) Small gauze plugs in position, preparatory to opening the sinus.
(b) High ligation of the jugular in the neck.

Marked nausea with diarrhea, which usually clears up in a day or two, sometimes follows. Serious kidney complications have occurred after the use of mercurochrome. All those who have used mercurochrome in this way to any extent admit its danger.

Intravenous therapy should in no way be expected to supersede surgical treatment of lateral-sinus infection. These agents are valuable aids in septic cases complicating otitis media where sinus infection cannot be diagnosed, and in combating the blood infection after the local focus has been eliminated.

Conclusions

1. The most important single factor in preventing lateral-sinus infection is early mastoidectomy, with removal of all necrosis surrounding the sinus.

2. The surgical requirements in the treatment of sinus infections are: (A) removal of the cause, and (B) limiting the extension of the infection.

3. Free incision of the sinus wall is to be preferred when knowledge of its contents is desired.

4. Ligation of the internal jugular vein may be delayed, when evidence of blood-stream infection is absent.

5. Surgical treatment of the jugular vein depends upon the extent of the pathological process, as determined by the symptoms and operative findings.

6. Blood transfusion and the intravenous use of mercurochrome should be considered when sepsis is not controlled by surgical methods. Blood transfusion is the safer, and is especially indicated when septic cases are doing badly.

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THE STOMATOLOGICAL-MEDICAL AND THE DENTAL-AUTONOMOUS PLANS OF EDUCATION FOR DENTISTS*

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The widespread interest among the medical profession in dental education calls for a careful analysis of those problems with which its members are confronted and the part they are to take, either active or passive, in their solution. What the medical profession should do or needs to do at this time is not the purpose of this discussion. We are concerned in presenting the outstanding issues involved, and in relating only those facts pertaining to the dental-educational situation as it exists today.

The attitude of many medical groups in the United States may be assumed to be the same as that expressed in the Atlantic Medical Journal, in an editorial in September, 1925, on "Den-

* Read before the American Stomatological Association, New York, N. Y., October 30, 1925.

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tal Education": "The medical profession must realize its responsibility in coöperating with the dentists in their altruistic labors in dental education." As will be shown later, the education of the dentist of the future is a problem of medical education, and the responsibility for remedying the defects in dental education of today is unquestionably a responsibility of the medical profession. To supply the remedy, the following is proposed in the same editorial: "The necessity for closer coöperation between schools of medicine and schools of dentistry is apparent, for the glaring deficiency in dental education today is the failure of schools, generally, to develop a medical outlook in the mind of the dentist. Mercenary tendencies, inadequate financial support, lack of proper educational guidance, selfish utilization of resources, indifferent or negligible coöperation, faulty organization, autocratic administration, unscientific and archaic methods of teaching, are some of the conditions to be found in certain universities that are obstructing the development of better dental service to the public. The failure of dental and medical faculties to coöperate loyally in the coördination and correlation of medical and dental teaching, and their indifference to a progressive dental-education program is to be condemned."

The need of "combining medical and dental teaching under one supervision" is emphasized in an editorial appearing in the *New York Medical Journal and Record,* September 2, 1925, page 291, entitled "Medicine and Dentistry": "Italy seems again at the front in making it, by royal decree, obligatory that all dentists must be professionally qualified in medicine and surgery and that every medical graduate must also acquire a considerable knowledge of dentistry. At last, the teeth are to be recognized, at least in Italy, as a part of the human organism as much as the eye or the ear, and not as so many stones which nature threw into our mouths for good measure and which have no physiological connection with the other bodily structures."

A perusal of medical literature will bear evidence to the fact that the medical profession is vitally concerned and seriously interested in the status of dentistry, dental service, and dental education. The indifference of the medical profession to dental practice and dental education is a matter of the past. In his address before the Medical Society of the County of New York, on January 26, 1925, the president, Dr. Samuel J. Kopetzky, called the attention of the medical profession to the need of high scientific standards in dentistry, saying: "This Society exacts the highest scientific standards from its members and it has a right to expect the community to demand the prosecution of quacks and of unlicensed practitioners of various cults. Such allied professions as pharmacy, dentistry, and nursing work in so close a relationship with medicine that anything that lowers the efficiency of their operation is bound to react upon our own efforts."

To induce the medical profession to assume the responsibility of molding and shaping dental education, and consequently improving dental practice, has been the aim of many dentists in the past, and numerous efforts have been exerted in that direction. The separation of dentistry from medicine was ever considered as an artificial barrier. In an address, delivered before the Sixth International Dental Congress in London, on August 4, 1914, Dr. Edward C. Kirk,[1] of Philadelphia, called for the reëstablishment of dentistry as a specialty of medicine among the other medical specialties. Dr. Kirk said: "There have not been lacking, ever since the establishment of dentistry as a profession upon an independently organized educational basis, those who have deeply deplored the outstanding fact that this hiatus between medicine and dentistry was ever permitted to exist, and fair-minded thinkers within the professional ranks of dentistry, as well as within the ranks of the medical profession, have been battling earnestly with the problem in an endeavor to obliterate the artificial and unwarranted distinction in a professional sense which has been allowed to grow and to continue to exist between the specialty of dentistry and the group of specialties constituting the general field of medical education and practice."

In spite of all these efforts on the part of physicians and dentists to establish dental practice as a specialty of medicine and to bring back dental teaching under medical supervision, there is apparent among some dentists an attitude of determined opposition to such a union between dentistry and medicine. In a leaflet published by a leading dental manufacturing company of the United States in February, 1925, which was circularized among dentists in the United States and Europe, a leading dentist, prominent in the profession, published an article in which the following statement appears: "There has developed an increasing tendency to reorganize dentistry under the ægis of medicine and stamp the practitioners of the dental specialty with the hall mark of the medical degree. This tendency has two origins: first, the desire of many representative medical men to extend the monopolistic medical principle so as to include the productive dental field within the sphere of medical exploitation; and second, which is the case here under

consideration, the tendency in question originates in the desire of certain dental practitioners to be officially labeled as medical men."

This must not be construed to imply that all dental manufacturing companies are opposed to a union between dentistry and medicine, or that dental manufacturers are interested in an indirect manner in shaping dental educational policies. On the contrary, some manufacturing concerns do not consider it within their province to meddle in professional problems or in dental education. Some are even in sympathy with the establishment of the highest standards, such as requiring the M.D. degree for the practice of dentistry. For instance, the S. S. White Dental Manufacturing Company of Philadelphia, publishers of the *Dental Cosmos,* an influential dental monthly, in a letter published in April, 1924, which was distributed among dentists, refers as follows to dental education in Italy: "The course covers six years, four of which are taken in common with the students of the medical school, the last two being devoted to purely dental subjects. This plan insures a thorough groundwork in general medicine, and prepares the student for an intelligent understanding of the relationship of dental pathology to general systemic conditions, and, vice versa, the influence of systemic conditions on the tissues of the oral cavity." And again: "Dental schools in all other countries require four years of study, and now we salute the National Dental School of Rome with six years following graduation from high school."

With regard to the union of dentistry and medicine, the S. S. White letter further reads: "Today as never before the professions of medicine and dentistry are working together with an intelligent recognition of the interdependence of one on the other in overcoming disease. In most civilized countries the old barriers between the two professions are being rapidly swept away, and harmony and coöperation are becoming more and more in evidence."

I believe, therefore, that the *problem of coöpcration* or a union of the two professions does no longer exist. The establishment of dentistry as a medical specialty, like all other medical specialties, is only a question of time. How soon and by what measures this will be brought about will depend upon the degree of *active coöperation* between physicians and dentists to that end.

In suggesting any plan of coöperation between physicians and dentists to bring about the necessary dental educational reforms, we must first establish the fact that present-day dental education needs reform, and determine the *kind* of reform. In such a discussion, it would also be important to consider the underlying causes which have brought about the present intensified interest in the educational problem. With such information in hand, we can see what proposed educational reforms would obviate the defects and remedy the conditions. According to the Carnegie Survey of Dental Education, the aim of dental schools in training dentists is characterized as follows: "To make the dental practitioner an expert in reparative and reconstructive procedures—a good dental mechanic, in short—has been the paramount purpose of dental education, which has been primarily manual training. In the attainment of this important aim, a preliminary general education has been mistakenly regarded by dental leadership, with notable exceptions, as a subordinate qualification, which, while perhaps theoretically desirable, was practically unnecessary, and apt, from the length of time required for its acquisition, to delay the beginning of dental study until a period in the age of the student when his capacity for active development in manual dexterity had become impaired or lost. Immaturity and ignorance, with hypothetically superior neuromuscular adaptability to digital training, have been preferred to relative maturity and wisdom, with greater degrees of understanding and capacity." With a dental curriculum in dental schools so formulated as to prepare dentists to be primarily proficient in mechanics, dental practice had to suffer so far as its health service was concerned, although it might not have suffered in its cosmetic, esthetic, and technical achievements.

The Carnegie survey reports on this in the following manner: "The type of training afforded by most of the dental schools does not promise to make the practice of dentistry the health-service equivalent of an oral specialty of the practice of medicine, and important improvements in dental education are required generally for attainment of that objective." The need of improvement in present-day dental education is recognized by dental educators. The recognition of this need has resulted in the introduction of several reforms, some of them in some dental schools, and others in other dental schools. For example, Marquette University College of Dentistry has adopted what is known as the two-three dental educational plan (two years liberal-arts work, and three years dental training).[2]

After January 1, 1926, the requirements in the State of New York will be six years of study, two years predental, four years dentistry. The School of Medicine and Dentistry of the University of Rochester, will require a minimum of three years predental work and four years den-

tistry. In some dental schools, the certificate of graduation from high school fills the entrance requirements. All dental-educational reforms pertain to the extension of time in preprofessional and professional training. Fundamentally, the improvements in dental education are directed primarily toward the *quantitative* and not the *qualitative* character of the dental curriculum.

On the other hand, the stomatological plan of education for dentists aims primarily at an improvement of the qualitative character of the dentist's training. It is not a question as to whether dentists are trained in dental schools giving a two-three (five years') dental course, or a one-four (five years') dental course, or a two-four (six years') dental course or even a three-four (seven years') dental course. Neither is the problem of dental education wholly a problem of predental education. The problem is: *What training will best equip the dentist to perform efficient health service?*

In order to appreciate fully the fact that dental education needs *qualitative* reforms rather than quantitative reforms, let us review briefly the underlying causes for the present state of confusion in dental education. Dr. Daniel H. Squire, Dean of the University of Buffalo Dental School describes the situation as follows: "The lack of knowledge of the extent to which oral infections participate in the inception of systemic disease has changed the trend of the future practice of dentistry, and simultaneously increased the demands for a higher type of health service. Such a condition could produce but one reaction, a universal appeal for a more comprehensive course in dental education."

It is interesting to note Dr. Squire's observation that the lack of knowledge on the part of dentists leaves them unable to interpret the significance of the relationship of focal infection to systemic disease, which implies a need for improvement in dental education. The principle involved is one of the relationship between the quality of dental education and the quality of dental practice. Why does Dr. Squire not suggest greater medical and dental coöperation as *the* solution for better quality of dental practice? While he considers the lack of a high quality in dental education as the root of the evil present in dental practice, the medical and dental professions have looked, for the last decade, toward what was *designated as medical and dental coöperation* as a solution for the prevention of the ruthless extraction of pulpless teeth and the prevention of focal infection.

The theory of focal infection called our attention to its application in dental practice. The eradication of dental infections sometimes meant the extraction of all suspected teeth. This brought about, in some quarters, the wholesale extraction of all teeth harboring suspected foci. It is at this point where a halt had to be made, both by physician and dentist. The question then arose as to when a tooth is to be sacrificed on mere suspicion? The dental profession objected to the decision arrived at by the physician in the matter of tooth extraction, on the ground that the physician is not conversant with dental subjects and the *saving of teeth.* The physician, on the other hand, concerned with the elimination of *all* foci of infection, considered it his duty to remove suspected teeth. He would not accept the dentist's judgment and diagnosis, on the ground that the dentist's opinion is of value only in so far as reparation of the teeth is concerned. The patient usually suffered as a result of this lack of coöperation between dentist and physician. To improve this situation, *coöperation in diagnosis* became the important issue.

Coöperation between physician and dentist calls for the proper correlation of data from their respective fields. It became evident that the mere desire on the part of conscientious practitioners of dentistry to coöperate with physicians did not necessarily mean that they were qualified for the task. The physician spoke a language which was foreign to the dentist. The physician spoke from a biological point of view, while the dentist, due to his training in the dental schools, spoke from a mechanical point of view. It soon became recognized that in order to obtain the maximum good from medical and dental coöperation, dentists must be trained in medical science. The subject of dental education has thus become, not merely a subject of academic interest, but one of great, immediate, and practical value.

The reasons for the unsuccessful coöperation between physicians and dentists are not ethical in character: they are, on the other hand, educational. *The autonomous system of dental education, as employed by dental schools in the United States, is responsible for the inadequate training of dentists for effective coöperation with physicians.* In speaking on this point, Dr. M. L. Rhein of New York City, says: "The belittlement by medicine, in our country, of the importance of the dental tissues and organs is largely due to the fact that our dental colleges graduate men in dentistry who do not possess the degree of M.D. They endeavor to compensate for this by teaching the dental students the principles of general anatomy, physiology, embryology, and pathology from the dental standpoint. This not only falls far short of the needed education, but

has brought about such differences in nomenclature, as to make it often difficult for the dentist to make his pathological terms understandable by the physician. They do not speak the same language. This must be the real reason why the physician so rarely calls the dentist into consultation; whereas, if the heart, or the throat, or the eyes, were the seat of disease, the family doctor would ask the service of one specializing in one of these fields." Dr. Rhein points out that in Hungary this defect, both in the medical and dental curriculums is remedied. *The stomatological plan of education has been in operation in Hungary since 1907.*

The term "coöperation" has been used in a careless manner, and has been misleading with regard to the purpose of medical and dental coöperation. In the discussion of dental education, great care must be taken to define the correct meaning of the term. In an editorial, entitled "Dentists, Physicians, Optometrists," which appeared in the *Optical Journal and Review of Optometry,* April 9, 1925, reference is made to a statement by Dr. D. H. Squire, Dean of the School of Dentistry in the University of Buffalo (quoted from a local newspaper). "When medicine divorced dentistry about 100 years ago, dentistry shaped her future along mechanical lines and became a highly specialized technical profession. Since that time dentistry has found that mechanical skill alone is not sufficient. All of the operations upon the teeth have a signal effect upon their supporting structures, and dentistry has appreciated the necessity of a broader field of knowledge and has decided to remarry medicine. Medicine and dentistry, working in close coöperation, will render a much more effective health service than they can do separately, as they are situated today. And so with the aid of medicine, it will be the aim of dentistry to develop teeth that are of sufficient hardness to resist the action of bacteria of decay and eventually to eliminate reparative work."

Referring to the above-quoted statement by Dr. Squire, the editorial comments as follows: "Dr. Squire uses the term coöperation in reference to the expected future relations of the dental and medical men. In using this term he seems to be looking to a continuance of separate entities. The idea of coöperation is consistent with that on the continuance of separate units, hardly with that of a complete merger of such units."

The improvements in the quality of dental education will depend largely upon the kind of qualitative improvements we wish to obtain in dental practice, whether in the mechanical or in the medical aspects. If we wish to grant that dentistry is to continue as an independent profession, then dentists, as dental mechanics, need not be medically trained. Under such circumstances, "coöperation" would simply mean economic and ethical coöperation, or working together between physician and dentist, and not coöperation, coördination or correlation of data pertaining to the relationship of infection in the mouth to systemic disturbances, with a view to proper differential diagnosis. In a similar manner, coöperation between medical and dental faculties will have little effect in bringing about the needed educational improvement in dental education, if the qualitative factor is missing.

What is this qualitative element that is lacking in dental education? It is the *medical-educational factor.* From this standpoint, we must distinguish dental plans, based upon the medical-educational foundation, and dental plans based on the autonomous educational foundation. These plans are designated, respectively, as the stomatological-medical plan and the dental-autonomous plans of education for dentists. There are five different dental plans proposed, and but one stomatological-medical plan.

Keeping clearly in mind the qualitative element of the dentist's education, let us see what advantages there are for him (the dentist) and the public if the dental plans are adopted. Then, let us see the benefits to be derived if the stomatological-medical plan of education for dentists is established.

In an editorial in the *Journal of the American Dental Association* for August, 1925, page 1006, the subject of the dental plans of education is discussed, and according to that editorial entitled "Confusion in Dental Education," organized dentistry is not decided on any plan and does not advocate any plan. It simply states the plans which bring about confusion as follows: "There is the plan suggested by some of having one year of predental work and four years of dental training—all five years being spent in a dental school; there is another plan of having one year of college work, spent in a university, and four years of training in a dental school; another plan of having two years in a university and three years in a dental school; another of two years in college and four years of dental training; and still another adhering to the present requirement of graduation from an accredited high school and a four-year course in a dental college. These plans cannot all be the best, and yet each one has its advantage—at least, each has favorable features for argument. And there is plenty of argument."

In order to compare these dental plans with the stomatological plan, the following charts are presented:

PROPOSED DENTAL-AUTONOMOUS PLANS OF EDUCATION FOR DENTISTS

Endorsed by	*Designation*	*Preprof. years*	*Prof. studies of medical-dental*	*Total years of study*	*Degree*
Dental Educ. Council of America	1-4	1 yr. in University	4 yrs. medical and dental subjects taught in dental school	5 yrs. of professional training	D.D.S.
Dental Educ. Council of America	1-4	1 yr. in University	4 yrs. medical and dental subjects taught in dental school	5 yrs. of training	D.D.S.
Dental Educ. Council of America	2-3	2 yrs. in University	3 yrs. medical and dental subjects taught in dental school	5 yrs. of training	D.D.S.
	2-4	2 yrs. in College	4 yrs. medical and dental subjects taught in dental school	6 yrs. of training	D.D.S.
		High School	4 yrs. medical and dental subjects taught in dental school	4 yrs. of training	D.D.S.

Harvard University Dental School.—The course leading towards the degree of Doctor of Dental Medicine (D.M.D.) covers a period of 6 years (2-4 course), 2 years predental and four years in the dental school. The dental school is a separate department of the university, as is the medical school. Leroy M. S. Miner, D.M.D., M.D., F.A.C.S., is dean of the dental school. The late Eugene H Smith, D.M.D., A.M., was formerly dean. The first session of this school began in November, 1867. The dental course is so arranged that many medical and medicodental subjects, required of the dental student for graduation, are offered at the Harvard medical school. For example, bacteriology is not given in the dental school, but is given "with the assistance of others of the staff of the department of bacteriology of the medical school." The dental students take the course in bacteriology together with the medical students, and cover approximately the same ground "except in so far as they (dental students) are excused from certain immunological exercises and from special work planned particularly for the medical students."

New York University College of Dentistry.—The course leading to the degree of Doctor of Dental Surgery (D.D.S.) covers a period of 6 years (2-4 course) 2 years predental and 4 years in the dental school. The dental school is not a part of the medical faculty, although it is a separate school of the University. Holmes C. Jackson, Ph.D., is dean of the dental school. This school, formerly known as the New York College of Dentistry, was founded in 1866, and became an integral part of New York University in June, 1925. The attempt to combine the teaching of medical and dental subjects and devote the last two years to specialized subjects is shown in their catalogue: "The trend of developments in dental science and dental education have pointed clearly to the need for closer correlation of the education of the dentist with that of the physician. During the first and second year of the dental course, instruction in the subjects of anatomy, physiology, bacteriology, chemistry, histology, and pharmacology will practically be identical with that given in the medical college. The subjects of anatomy and bacteriology will be given at the medical college. Recognizing the fact that dental education must be founded not only upon a firm groundwork of training in pure science, but that it also demands the training of the hand in delicate manipulative procedures, a certain amount of technical instruction will be included in the work of the first two years. The work of the junior and senior years will be carried on entirely in the dental department. This will include the specialized subjects required for the proper training of the dentist."

Columbia University, School of Dental and Oral Surgery.—The course leading to the D.D.S. degree covers a period of 6 years (2-4 course) 2 years predental and 4 years in the dental school. The dental school is not a part of the medical faculty, although it is a separate school of the University. Frank T. VanWoert, M.D.S., is director of the dental school. Columbia University established a school of dentistry in 1916 which was merged on July 1, 1923, with what was formerly known as the College of Dental and Oral Surgery of New York (organized in 1905), and the combined dental schools make up what is now known as the School of Dental and Oral Surgery of Columbia University. The importance of basing adequate training of dentists on a sound knowledge of the fundamentals of medicine is pointed out in their catalogue: "It is the purpose of the School of Dental and Oral Surgery to combine in the highest degree practicable a sound knowledge of the fundamentals of medicine with adequate training in the technical procedures of dental science and art. Two years of college work, including certain specified subjects, are required for admission, and the course in dentistry covers four years, averaging each over one thousand hours. On the completion of his second year, the student who has had two years of collegiate training may be a candidate for the degree of Bachelor of Science in Dentistry; on completion of his fourth year, the degree of Doctor of Dental Surgery."

The Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania.—The course leading to the D.D.S. degree covers a period of 6 years (2-4 course), 2 years predental (beginning with September, 1927) and 4 years in the dental school. The dental school is not a part of the faculty of medicine, although it is a separate school of the University. Charles R. Turner, A.B., D.D.S., M.D., is dean of the school of dentistry. The School of Dentistry of the University of Pennsylvania was organized in the early part of 1878. It was the third school created as the dental department of a University, having been preceded in this respect by the Harvard School of Dentistry (organized in 1867) and the Dental Department of the University of Michigan (1875). Here, the attempt is made to combine both the medical and dental subjects, which are to be taught to the dental students, in the dental school. In this plan,

the medical subjects are not taught in the medical school, but are taught in the dental school. This is clearly pointed out in their catalogue: "Realizing that while dentistry is a separate profession, yet constituting as it does an important branch of the science and art of healing, and that its close relationship with medicine necessarily called for the future development of dentistry in conformity therewith, the trustees took action resulting in the creation of the School of Dentistry of the University of Pennsylvania. The plan of instruction was so arranged that the branches common to both medicine and dentistry were taught concurrently by teachers who held corresponding chairs in both medical and dental faculties; while the strictly dental teaching was provided for by the creation of chairs whose incumbents were specially qualified for giving instruction in their respective branches. This arrangement is in strict accordance with the university idea, by which the teaching of allied branches in different departments is centralized. It does not imply that the School of Dentistry is a branch of the School of Medicine, for, as a matter of fact, both are distinct schools of the University."

Temple University School of Dentistry.—The course leading towards the D.D.S. degree covers a period of 5 years (1-4 course), one year predental and four years in the dental school. I. Norman Broomell, D.D.S., F.A.A.D.S., is dean of the dental school. This school was organized "by Dr. John H. McQuillen and several professional associates in the fall of 1862," was known as the Philadelphia Dental College, and became a part of Temple University in 1907. The school catalogue refers to the curriculum as follows: "The curriculum covers a period of four years, comprising thirty-two weeks of actual attendance and work in each year. It includes all of those subjects which have a direct bearing upon the successful practice of dentistry." The school meets with what is generally considered the highest *dental standard* now in existence in the United States. "Temple University Dental School is a member of the American Association of Dental Schools, and conforms to all the requirements of this organization. Its diploma is recognized by the National Board of Dental Examiners."

Although the above-mentioned dental schools are university dental schools, their plans of instruction fall in one of the above groups in the chart, and so it can readily be seen that *university affiliation is not a solution for the dental-educational problem.* In a recent inquiry concerning the establishment of the requirement of the M.D. degree for entrance to dental schools, Professor William J. Gies, of the Carnegie Foundation for the Advancement of Teaching, gave the following information, as late as October 8, 1925: "None of the dental schools in the United States and Canada has made a move in the direction of requiring the degree of Doctor of Medicine for admission."

There are other plans that have been suggested by dental educators: a seven-year course for the degree of Doctor of Dental Medicine; a four-year course for the B.S. degree; and a five-year course for the M.S. degree. All of these three types of practitioners are permitted to practice without supervision or direction. All of this teaching is to be done in dental schools, and the degree is to be the D.M.D. degree (Millberry). Another plan is two years of arts work, a basic training of medicine, and two years' specialization in dental training, all this teaching to be done in dental schools, and the degree to be D.D.S. (Squire). Another plan is two years of preparatory work, three years of medicine, and two years of specialization, medical subjects to be taught in a medical school and dental subjects to be taught under dental supervision as electives. At the end of five years, two degrees are obtained in medicine and dentistry or one degree in medicine, and dentistry to be recognized as a specialty of medicine (Eugene H. Smith). Another plan is that of three preclinical years, two clinical years, and sixth-year specialization. In the fourth year, or the first clinical year, 99 hours of stomatology are to be included; in the fifth year, or the second clinical year, one quarter is devoted to specialties and one quarter to an elective, which may be either a specialty or the further study of general medicine. The sixth year to consist of four quarters of hospital residence and training in the specialty. This is the proposed plan for a reorganized medical curriculum, in which stomatology is taught both in the undergraduate medical curriculum and also as a specialty of medicine (Owre). (See table below.)

These dental-autonomous plans are based on the premise that dentistry is an independent profession and must remain so. This is the crux of the whole subject of dental education. All dental-educational plans are designed with this end in view. Let us see what dental educators comment on this point. Out of all the plans, two stand out preëminently, have been most widely discussed and have been endorsed by the Dental Educational Council of America—an organization of representatives of dental societies, dental schools, and dental examining boards.

PROPOSED STOMATOLOGICAL-MEDICAL PLAN OF EDUCATION FOR DENTISTS

Endorsed by	*Designation*	*Preprofessional years*	*Professional studies of*		*Total years of study*	*Degree*
			medical	*dental*		
Amer. Stomatological Assoc.	3-2 Stomatological-Medical plan	Same standard as required of other medical specialties	3 yrs. basic medical course in medical schools	2 yrs. of dental subjects, in stomatological or dental schools	5 years of prof. training	M.D.

The careful analysis of the proposed dental plans, as presented above, will clearly show that they failed to take into account the quality in which dental education is lacking, and consequently, they do not remedy this inherent deficiency.

The two plans referred to are: the 2-3-year plan and the 1-4-year plan, both five-year plans of dental education. In an address given before the National Convention of the American Association of Dental Schools, in Chicago, March 20, 1925, Dr. Henry L. Banzhaf,[3] dean, Marquette University College of Dentistry, opened with the following statement: "Ever since what is now commonly referred to as the "two-three graduate plan of dental education" was suggested to us by Dr. William J. Gies a year ago, it has been the subject of a great deal of discussion, both favorable and unfavorable. Wherever the plan has been most energetically condemned, I have found that the unfavorable opinion has been based upon misconception and misunderstanding. *A clean-cut definition of the nature of this plan,* therefore, seems to be in order at the outset." (Italics mine.)

Dr. Banzhaf describes the plan as follows: "The two-three graduate plan of instruction consists of a five-year undergraduate course in dentistry leading to the degree of Bachelor of Science and the professional degree of Doctor of Dental Surgery, followed by one year of graduate work leading to the degree of Master of Science for those who elect to take it. The first two years are taken in the college of liberal arts, and consist of necessary cultural preliminary courses, and courses fundamental to dentistry; the next three years, which are taken in the dental school, consist of professional courses only; the last, or graduate year, which is elective, gives the graduate the opportunity for advanced study, research, and specialization. Please note that the two-three plan is a five-year course in dentistry; so also is the one-four plan. Let me drive this home: both plans call for five years of instruction in dentistry and its fundamental and preliminary sciences. On the face of it, there is very little difference between the two plans, when they are compared, as to the number of clock hours of instruction in the various courses. Both plans meet with the approval of the Dental Educational Council of America; both are steps in advance."

Dr. Banzhaf explains in his discussion that the one-year graduate course for the M.S. in dentistry, although not obligatory, is desirable, and will be taken by many graduate dentists. With regard to this five-year plan, *implying* that it will become a six-year (2-4) plan, and with regard to the possibility of teaching dentistry as part of the medical curriculum—in view of the fact that the dental course is to occupy a period of six years in dentistry, Dr. Banzhaf says: "I am definitely opposed to a six-year dental course. In my opinion, the need for a six-year plan does not exist. *Moreover, dentistry should never, in my opinion, lose its identity as a separate profession with its own degree.* It can never be taught successfully as part of a medical curriculum as a specialty of medicine. Dentistry, with its traditions, with the history of its achievements, should maintain its independence on an equality with medicine. One of the virtues of the plan of dental education that I have the pleasure of discussing in this paper is that it brings about this equality with medicine which has been the subject of so much discussion and appears to be so highly desired by many members of the dental profession." (Italics mine.)

From these statements, we can readily see that the members of the dental profession are desirous of placing dentistry on a level equal with other specialties of medicine, but organized dentistry seems to believe that it is best to keep the profession as a separate entity with a separate degree.

The underlying principles of all the dental-autonomous plans are as follows: (1) strictly dental subjects, those pertaining to the specialty, can be adequately taught in three years; (2) preprofessional education should be the same as premedical education; (3) these plans insure independence of dentistry from medicine. The Dental Educational Council of America endorses these plans.

According to the stomatological-medical plan endorsed by the American Stomatological Association, predental educational problems are obviated. This plan aims at the establishment of the practice of stomatology (dentistry) as a specialty of medicine, just as the practice of other specialties of medicine are now established in the United States, such as the medical specialties of ophthalmology, otology, laryngology, rhinology, etc. The stomatological-medical education plan for dentists consists of the following: The stomatologist (dentist) shall acquire a full medical training in the regular medical school, as is required of other medical practitioners and specialists, and then he shall take a graduate course of two years in his specialty, in the stomatological school or in the now existing dental schools, whose curriculums will be readjusted to fit the new educational plan for dentists. The

graduate in stomatology (dentistry) shall hold a medical degree, the M.D. degree.*

We come now to the question of how many years the dentist needs for training in dental subjects. Dr. Banzhaf proves by five years' experience that three years will meet the requirement. If we consider the purely technical subjects and the medical subjects which are incorporated in the three years of professional training, and if we separate the medical subjects from the dental subjects, we shall find that two years will amply suffice for the training in the strictly dental subjects. It is more expedient to have the medical subjects taught in the regular medical schools for which they are equipped, and to teach the purely dental subjects in the dental schools, equipped for the readjusted curriculum to meet the needs of the new dental student. The stomatological plan of education differs from the dental plan only in the redistribution of the teaching of the subjects; that is, the medical subjects to be taught in the medical schools, and the dental subjects in the dental schools. This will obviate the confusion in terminology and differentiation in concept, as referred to by Dr. M. L. Rhein:[4] "The belittlement by medicine, in our country, of the importance of the dental tissues and organs is largely due to the fact that our dental colleges graduate men in dentistry who do not possess the degree of M.D. They endeavor to compensate for this by teaching the dental students the principles of general anatomy, physiology, embryology, and pathology from the dental standpoint. This not only falls far short of the needed education, but has brought about such differences in nomenclature, as to make it often difficult for the dentist to make his pathological terms understandable by the physician. They do not speak the same language. This must be the real reason why the physician so rarely calls the dentist into consultation, whereas, if the heart or the throat, or the eyes, were the seat of disease, the family doctor would ask the service of one specializing in one of these fields."

The purpose of the proposed educational reforms is to readjust present-day teaching to meet present-day conditions; that is, the demand of medical science and the need of the public. We must, therefore, look to that plan which will give the most satisfactory results with the least expenditure of money and time on the part of the student. We must look for the plan which, in the shortest time, will give the maximum amount of knowledge, and which will be sufficient to permit the graduate to practice without endangering the health of the public.[5]

The stomatological-medical plan is designed with this in view; namely, to give the student the maximum training which he must obtain in order to be graduated and licensed to practice. The plan provides for the teaching of the medical subjects in medical schools and dental subjects in dental schools. Each school is equipped to carry out its special program more effectively than is the case today where dental schools also teach the medical subjects. This rearrangement will also relieve the dental faculty of having to procure proper facilities for medical teaching, as is the case under the existing regulations.

The question of "professional" degrees has been a subject of discussion among dental educators for some time past. Dean Guy S. Millberry of the University of California, suggests the D.M.D. degree, which will come closer to the medical degree, in place of the now existent degree of Doctor of Dental Surgery (D.D.S.). Dr. Millberry states: "This plan (his proposed plan of January, 1925) proposes the establishment of a degree of Doctor in Dental Medicine, D.M.D., based on approximately seven years of university training."[6]

Dr. C. N. Johnson,[7] President of the American Dental Association, in commenting on the subject of the D.D.S. and the D.M.D. degrees, says: "If you take that four-year course, and do not give at the end of that time a degree which carries the title of "Doctor," if that man spends four years of hard work (those not familiar with present college teachings have no conception of the way we crowd those students; we do make them work those four years), if you are going to do that with a student and then have him called Mr. So-and-So, you are not going to attract to the profession of dentistry a very large number of men. There will not be enough to take care of the people. We have grown in the habit in this country of giving the title of Doctor of Dental Surgery. If you take that away from a man you are not going to have many men go into dentistry. That is my prediction if it is carried out."

According to the stomatological-medical plan, the problem of degrees is obviated, as this plan establishes one standard degree, the M.D. degree. We must be cautious not to direct the discussion to a matter of formalities. The problem is not one of degrees. Whether the dentist is to receive the D.M.D. or the D.D.S. degree, or the combined M.D. and D.D.S. degrees is not the issue. Emphasis should be laid, primarily, on the need of a medical education in the basic medical subjects which can best be offered in the

* If the requirement for graduation from the medical school will continue to be four years, then the stomatological-medical plan is designated as the 4-2 plan (4 years' medicine and 2 years' stomatology).

regular medical school. The strictly dental or special dental subjects are given, to the best advantage, in the dental departments or in special schools.

In view of the fact that there are no special degrees for other medical specialties, it is most expedient not to confer a special degree for the specialty of dentistry. A special degree would not, in this instance, serve the purpose of establishing dentistry on an equality with other medical specialties. Neither is it desirable to single out the dentist by giving him an additional degree, such as the M.D. degree and the D.D.S. degree. Equality can best be obtained by unification. Therefore, as an expedient measure, it is best to adhere to the M.D. degree, which has served to designate medicine and its specialties. The altruistic and humanitarian contributions of medicine, combined with the contributions of dentistry will add still more to the honor of our specialty.

Another subject that should receive attention is a consideration of the necessary readjustments that should be made during the transitory period from the status of present-day dentistry as an autonomous profession to the establishment of dentistry or stomatology as a specialty of medicine. To meet this contingency, that is, to aid practicing dentists and dental schools to readjust themselves, the American Stomatological Association has asked the American Dental Association to take part and coöperate in the forthcoming reforms. It is our aim to assist practicing dentists to obtain the additional and necessary medical training and to assist existing dental schools to readjust their curriculums to conform to the medical stomatological plan of teaching. This will obviate unnecessary economic waste.

According to the ATLANTIC MEDICAL JOURNAL, the Dental Educational Council has issued the classification of 43 dental colleges in the United States as follows: 24 dental colleges are rated as class A; 14 as class B; 2 as class C, and the rating of three of the colleges is postponed. The Council has established the requirement of a predental year for all class-A dental colleges, beginning with 1926; that is, that beginning with 1926, five years will be required for the dental course.

Most of the dental colleges are affiliated with, and if not, seek to be affiliated with Universities. Hence, the shifting of subjects from one department or school of the university to another will not affect the income of the university of which the dental school is a part. The readjustment in the dental curriculum can readily be effected without economic loss to these university dental schools. Dental educators maintain that dental teaching can most efficiently be carried on in university dental schools, rather than in private dental schools.

The status of the practicing dentists in the United States during the transitory period is somewhat similar to the status of the "chirurgien-dentistes" of France, who are known as "odontiatrists." These dental surgeons of France, under the leadership of Marcel Billoret, demand an M.D. degree, and they are making arrangements whereby those who are in practice will be given an opportunity to obtain the additional and necessary medical knowledge. The French dental surgeons and stomatologists have joined their efforts in order to prevent a state of conflicting interests which may arise between the practicing dental surgeons, trained under the dental-autonomous educational system and the stomatologists, trained under the medical-stomatological educational system. Similar readjustments can be made in the United States.

The protection of the public health demands that such readjustments be made in order that dental service shall not be interrupted during this transitory period. Readjustments concerning the practice of stomatology as a specialty of medicine by practicing dentists can be brought about in many ways. Attempts at standardization of the practice of other medical specialties are now being made.

Elsewhere, the writer has pointed out the advantages of the medical-stomatological plan for practicing dentists of today in the United States and for the practitioners of the future.[8]

In a paper read before the International Stomatological Association in Paris, on October 24, 1925, Dr. Oliver T. Osborne, Emeritus Professor of Therapeutics, Yale University School of Medicine, in dealing with the subject "Why Should the Dentist be a Graduate in Medicine?" made the following statement: "Because the preservation of teeth, proper reconstruction, the interpretation of the harm of malocclusions, imperfect crowns and bridges, and poorly fitting plates, and the recognition of the menace of dead teeth can be safely left only to the dentist who has good medical knowledge, and because a medical graduate specializing in dentistry will be a most honored preserver of health and a recognized exponent of the prevention of disease, I believe that the specialty of stomatology requires for its practice the medical degree. Consequently, it is encouraging to note the growing interest in stomatology shown by medical schools, and to note the formation of stomatological societies and the development of special opportunities for studying stomatology in the United States."

The stomatological-medical plan not only pro-

vides for the practice of stomatology by graduates in medicine, but it also implies the teaching of the principles of stomatology to *all* undergraduates in medicine, including those who do not intend to specialize in stomatology. The need of incorporating stomatology in the medical curriculum is recognized by investigators in medical education. Mr. Abraham Flexner, Secretary of the General Education Board of the Rockefeller Foundation, refers to this subject in the following statement: "We have come to see in the last few years that dentistry is a branch of medicine of the same dignity and importance as pediatrics, obstetrics, gynecology, or any other specialty.....The new school of medicine will, it is hoped, undertake to place training in dentistry on the same academic and scientific level as training in medicine and surgery."[9]

That dentistry would eventually become a fully recognized specialty of medicine, and dentists would be most efficient in their practice by acquiring a knowledge in the fundamentals of medicine (such as is proposed in the stomatological-medical plan) was predicted thirty years ago, in 1896, by Dr. Roswell Park, late Professor of Surgery in the University of Buffalo, in his address at the opening of the Fourth Annual Session of the Dental Department of the University of Buffalo. Two paragraphs are quoted from the address because of the comprehensive concept of dentistry incorporated therein, and these two paragraphs fully negate the validity of the objections to the establishment of dentistry as a specialty of medicine on the ground that dentistry, because of its surgical, esthetic, manipulative, and necessary skill calls for a separate profession. In referring to dentistry as a specialty of medicine, Dr. Park states:

"It is necessary constantly to repress a tendency toward a failure to comprehend the general principles underlying all medical specialties, and it has been hard, at least until recently, to impress upon the men of your profession that they were really only practicing a branch of ours, and that in disregarding a general and comprehensive knowledge of the fundamental branches, they were but poorly preparing themselves for the practice of a dignified specialty. Certainly, dentistry makes as many demands upon us for mechanical training, digital dexterity, familiarity with the properties of materials, etc., as does surgery, and in some respects even more. Of course, to a certain extent, in these respects it is like a mechanical trade. If you will permit me to say so, the great trouble with the dental profession, until very recent times, is that they have regarded their work too much as a trade and not enough as a profession.

"This has been indeed a great misfortune, for men have been misled by the need of cultivation of their hands or their manual powers, and have been persuaded away from a finer study of fundamental principles upon which the whole practice of dentistry should be based. And so it has happened that men have been so ambitious to become perfect operators that they have neglected anatomy, physiology, chemistry, and pathology, have even neglected odontology, sacrificing everything else to their work as mere artificers.

"The man who would be an ideal oral surgeon must be not only generally familiar with anatomy and physiology, but must thoroughly know the embryology of the face and teeth, the physiology not alone of the organs of the mouth, but of all the secreting glands and the chemistry of all their secretions; not only the anatomy of the cranium, but general anatomy as well, and even comparative anatomy. He must be well informed in the explanations of all the congenital defects met about the face and mouth; he must be familiar not only with the ordinary principles of pathology and bacteriology, but he will find in the fluids about the mouth such a fertile opportunity for bacteriological study that, be he ever so expert or erudite, he has still much left to investigate in this direction. There is no disease germ with which he can afford to be unfamiliar, and, as any form of tumor may be found in or about the mouth, he should be familiar with the entire subject of tumors and their surgical treatment."

Stomatological education in the United States is now receiving greater attention than heretofore. As a problem of medical education, although bearing a relationship to dental education, the medical profession is vitally concerned in effecting a solution. Because of the fact that the solution of this medical-educational problem requires competence and appreciation of its general and special issues, educators have found it difficult to offer any workable plan without considering it as a medical problem. The efforts of the Dental Faculties' Association of American Universities in bringing about the needed reforms, are commendable, and all those interested in dental educational reforms will find their literature instructive.[10]

It is to be hoped that the above discussion will give a clue to the many problems in dentistry which the medical profession, as the agent for the protection of the public health, must make further attempts to solve. Above all, the medical profession must aim to solve the problem of the training of the future specialists of the mouth, because, as I have shown in the discussion, *it is essentially a problem of medical education.*

CONCLUSIONS

(1) The indifference of the medical profession to dental education and practice is a matter of the past.

(2) The medical profession is vitally concerned in dental education.

(3) The dental-autonomous educational plans and the autonomous system of dental education will not remedy the defect in dental education.

(4) The stomatological-medical plan provides for the training of medical specialists and merges dentistry with medicine. It is a practical, workable and desirable plan.

(5) Stomatological education is a problem of medical education, and must be solved by the medical profession with the assistance of competent dental advisers.

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NOTE.—For purposes of clearness, in this discussion the term *stomatological-medical* is used in opposition to the term *dental-autonomous.* The stress being laid, primarily, on the medical system of education in contradistinction to the system of education independent of medicine, generally designated as the dental-autonomous system. The term stomatological in this discussion stands for the education of dentists as *medical specialists,* and is based on the *medical system* of education. The term dental stands for the training of dentists as *independent practitioners,* and is based on the *dental-autonomous* system of education.

RESUME OF THE MONTH'S SCIENTIFIC ADVANCES

One of the most noteworthy of recent discoveries is that Dr. Ogawa in the surgical clinic of the Japanese medical academy of Keijo, has been able greatly to reduce the healing time of fractures by administration of the parathyroid hormone isolated last year by Prof. J. B. Collip, of the University of Alberta, Edmonton, Canada. Dr. Ogawa has found that rats with broken legs could produce twice as much new bone when fed with parathyroid glands, for the reason that the parathyroid hormone raises the amount of calcium phosphate present in the blood.

Announcements have been received from Sidney, New South Wales, Australia, that Dr. Small Page, in the course of malaria experiments, has extracted an antituberculosis serum from the spleen. Professors of Melbourne University are credited with saying that the serum of Dr. Henry Spahlinger, of Geneva, "fades into obscurity beside that of Dr. Page." Seventy-two patients are under treatment, and it is said that 10,000 can be treated at a cost of about $375.

Dr. Wm. E. Gye, speaking recently at Leeds, England, said that "prospects for the final solution of the cause, and probably the prevention, of cancer are ripe," that in his opinion the most important part of the work is already solved.

Prof. F. C. Wood, director of the Institute of Cancer Research at Columbia University, in the report on his trip to Liverpool to study the lead treatment inaugurated by Dr. William Blair Bell, of the University of Liverpool, states that one person in every five who have taken it is benefited. Although this is the most important advance since the advent of radium and the x-ray, he believes it is not the final solution of the cancer problem.

At a meeting of the American Society of Zoölogists held in Boston, December 30, Dr. L. C. Strong of the Bussey Institute of Harvard University, stated that the sole basis of cancer is heredity, and people born without a strain of the disease are immune; but he added that even where hereditary traces exist, environmental factors would seem to be necessary, as for instance irritants, in order to make the disease active. Dr. Strong's conclusions on the part which heredity plays in the development of cancer, were based largely on extensive experiments with rats and mice, conducted over a period of years. He claims to have succeeded in breeding families of mice that were 100 per cent immune to cancer, and other families that were 100 per cent susceptible. Naturally there will be many who will object to arriving at any definite conclusions based upon these experiments.

Veterinarians of Vienna claim to have originated a medicine, lobelin, extracted from lobelia inflata, which has revived animals that had been suffocated, even when injected five or six minutes after they ceased to breathe. So far, it has, however, not been successful in cases of monkeys asphyxiated with gas.

Drs. Henry Marcus and Ernst Sahlgren, Stockholm, following a series of experiments at the Karolinska Medical Institute, claimed that certain drugs administered to hypnotized persons without "suggestion" would raise the blood pressure to between 109 and 130 and the pulse to from 54 to 100. With suggestion, the blood pressures were from 107 to 116, and all pulse readings less than 67.

Dr. Robert A. Milliken and his associates in the laboratories of the California Institute of Technology, at Pasadena, have discovered the "cosmic" ray, a hundred times more penetrating than the x-ray, and coming wholly from outside the earth, equally from all directions, both day and night. Its wave length is 10,000,000 times shorter than that of light, and 2,000 times shorter than the x-ray. The theory is advanced that it is caused by the integration of atoms at various points in space. This theory is based on the computed energy of the cosmic ray and the known energy required to disintegrate the atom. Dr. Milliken's colleagues, commenting on his discovery, express the belief that he has proved the possibility of the origin of matter.

Some of the interesting scientific announcements of 1925, outlined in an article by the Associated Press, are: Cancer is not infectious. Abstention from the nursing of infants noticeably increases susceptibility to cancer. Nearly half the cases of leprosy which have not passed the six months' stage can be cured by chaulmoogra oil. A severed spinal cord may be mended by patches from that of another organism. Acorns may possibly be a cheap source of insulin. Arsenic may be used to check paresis. Achlorhydria is a cause rather than an effect of pernicious anemia. Sunlight will kill germs in one hour, with its greatest effectiveness at noon. Rejuvenation operations are based on a theory proved to be false. The pituitary gland is the regulator of the body's water supply.

Miss Clara Nigg, of the department of bacteriology of the University of Kansas, has found from study of 800 American Indians that there is no resemblance of blood grouping of Indians to that of European or Asiatic races, contrary to scientific theories that they sprang from an old-world stock.

THE ATLANTIC MEDICAL JOURNAL

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FEBRUARY, 1926

EDITORIALS

ANNUAL REGISTRATION LAW

Elsewhere in this number of the JOURNAL will be found a communication from a member of the Society, protesting against the Annual Registration Act for practitioners of the healing art as passed by the 1925 Pennsylvania Legislature. It is unfortunate that objections to this Law were not registered with our Committee on Public Health Legislation or the Medical Legislative Conference prior to the passage of the Act.

This bill was proposed by the Pennsylvania Department of Public Instruction, with the following object as set forth in the bill as passed:

"Money thus received shall be available for the use of the said Board of Medical Education and Licensure for the purpose of enforcing the provisions of this Act against unlicensed, illegal, and unregistered practitioners."

The proposed bill was approved by the Board of Trustees of our Society at their December, 1924, meeting, such action being published in the January, 1925, ATLANTIC MEDICAL JOURNAL, page 240. *Legislative Bulletin No. 4,* issued February 21, 1925, by the Medical Legislative Conference and mailed to the officers and public-health legislation committees of all component county societies, published the Act in full, with three paragraphs of comment. Each copy of the Legislative Bulletin conveyed on the front page an invitation to members to express their opinions to the Conference regarding proposed legislation reviewed in the bulletin. *Legislative Bulletin No. 5,* under date of February 28, contained reference to the bill with comment, the same being true of *Legislative Bulletin No. 6,* issued March 14, 1925. Each bulletin also called attention to the fact that similar annual-registration acts have been effective in Pennsylvania for some time for dentists and pharmacists.

In the April, 1925, copy of the ATLANTIC MEDICAL JOURNAL, Dr. F. L. Van Sickle, on page 468, discussing the Annual Registration Act, stated that he, while originally opposed to the proposed Act, had finally concluded that since the bill was introduced for the Board of Medical Education and Licensure for the purpose of obtaining funds with which to enforce the Medical Practice Act, he (Dr. Van Sickle) would "without complaint see what the next few years will develop by the application of annual registration." He further states, "It is quite time for the medical profession to cease being so obstructive and in some instances reactionary, and to encourage those who are endeavoring to do the best they can in the way of law and order."

ILLEGAL PRACTITIONERS

Under the provisions of the Medical Registration Act, which became effective January 1, 1926, the annual fees are made available for the use of the Board of Medical Education and Licensure of the State of Pennsylvania for the investigation and prosecution of alleged illegal practitioners of medicine, drugless therapy, chiropody, and physiotherapy. At no time in its existence has the Board had adequate funds available.

The organization of this work is now under way. In Philadelphia County, a special investigator is working in conjunction with the specially organized committee which functioned through the office of the Director of Public Health, Dr. Wilmer Krusen, and this investigator can take care of complaints from adjacent counties also. There are two full-time investigators working through the main office at Harrisburg.

It is the hope of the Board, and its object, to "clean up" the State of quacks and illegal practitioners. The members of the medical profession throughout the Commonwealth can be of great help to the Board by reporting all alleged discrepancies in the legal practice of medicine;

in fact, they should feel that it is their *duty* to do so. The Board has promised that every signed complaint will be duly investigated and a report sent to the writer of the same, and that the informant will not be used as a witness in Court. Such information should be sent to the office of the Board in Harrisburg, or to any member of the Board.

DENTAL EDUCATION.

In this number of the JOURNAL appears an article entitled "The Medical Stomatological and the Dental Autonomous Plans of Education for Dentists."

One of the policies of our JOURNAL is to foster a closer coöperation between the medical and the dental professions. In order to accomplish this to its fullest extent, the medical profession should appreciate the responsibility it must assume in regard to dental education. Reference is made in the article to the three-two medical stomatological plan, and the Council on Education and Hospital Training of the American Stomatological Association is now working out the details incident to the establishment of this procedure.

"The American Stomatological Association stands firmly behind the dentist. The aim and function of the association is to help dentistry to help itself." In maintaining the standard for the M.D.-degree requirement for dentists, it means for all dentists, not a particular group or class. Stomatology has won out in Italy, which means that the dentists are required to have the degree of M.D. in order to practice dentistry, which should be a specialty of the healing art, medicine, the same as the other so-called medical and surgical specialties.

The French government recently has appointed a committee of twenty-five to make legal the requirement of the degree of M.D. for the practice of dentistry in France.

"The official recognition of the terms stomatology and stomatologists replacing those of dentist, dental art, dentistry, and odontology, took place in Hungary in 1906. In France, the authorities have recently substituted stomatologist for the old term dentist, pertaining to the regulations of dental service in the hospitals of Paris. This question is now before the French dental surgeons throughout the whole of France. They, too, have to take care of the dentists in France, and it is from the coöperation between the stomatologist and the dentist in France that we hope the solution of the problem will come. In France there are now individuals who have a diploma and practice dentistry but are not graduates in medicine, and the stomatologists, i. e., physicians who practice dentistry. In Germany there are the graduate dentists, or surgeon dentists, who are not graduates in medicine, who practice dentistry, but have not received the degree in dentistry, and the dental mechanics who practice dentistry without a diploma. In Belgium and Switzerland a diploma is required. In England there are the graduate and nongraduate dental mechanics, and a third group, the stomatologists, who are graduates in medicine, practicing dentistry. In Germany, on December 15, 1925, a transitory period was established, during which period the "Zahntechniker" or "dentist" will have to qualify and pass a special examination of the recently established special board. After the set time has elapsed, the university standard for dental education will be compulsory for all who wish to practice dentistry in Germany. In England, since 1921, the dental mechanics are admitted to prescribed examinations which are outlined by a special board for the qualification for registration. The last examination of the board, established under the 1923 act, will be held in April, 1926 (*Dental Surgeon,* November 28, 1925).

"In America the oral surgeons advocate a medical degree for those who wish to practice the surgical branch of dentistry, at the same time they have given the impression that the dentists are to be identified as mechanics, and for them the D.D.S. is sufficient. While we believe that a medical training is necessary for the practice of surgery of the mouth, we also maintain that the medical training is equally important and indispensable for the treatment of the nonsurgical diseases of the mouth. Stomatology embraces every branch of dentistry. A stomatologist is not merely a dentist with a medical degree, or a medical man with a dental degree, but a dentist having had a medical education, a hospital experience, and what is most important of all, a medical point of view.

"The American Stomatological Association is not interested in protecting professional interests or professional groups; but it is interested primarily in the protection of the interests of public health, and we believe that the dentist should have the opportunity and the facilities should be given to him in order that he may take his place as a medical specialist equal to the ophthalmologist, the rhinologist, and otologist."

The efforts of the American movement, with proper leaders should be crowned with success, and the members of the medical profession are urged to read carefully the article by Dr. Asgis, to visualize its import, and to assume their full responsibility in the realm of dental education.

MEDICAL WOMEN'S ACTIVITIES

The twelfth annual meeting of the Medical Women's National Association will be held at Dallas, Texas, April 18-19, 1926.

"The object of this association is to bring medical women into association with each other for their mutual advantage, to encourage social and coöperative relations within and without the profession, and to forward such constructive movements as may be properly endorsed by the medical profession."

The outstanding innovation of the last convention was the establishment of scholarships.

According to the October, 1925, issue of the *Bulletin of the Medical Women's Association,* the reasons actually given by women for not taking up medicine are: six years of training before graduation, beside the internship; increasingly academic nature of the work; health as a reason urged by relatives; sex prejudice of male students and colleagues; uncertain returns, and the difficulty of reconciling the normal life of a woman and the life of a doctor.

Between 1922 and 1925, the percentage of women in the whole group of American medical graduates fell from 6.9% to 5%. Why? Time and cost of preparation is the answer. The *Bulletin* is of the opinion that sons of wealth have the advantage over daughters of wealth in loosening the paternal purse-string to pay for such education; and sons of poverty have the advantage over daughters in getting together the necessary shekels in this "man's world." What is the answer? *Scholarships.*

The *Bulletin* further states: "Let no women be compelled to submit to the humiliation of prostrating themselves before a man for pelvic examination because the town has no woman doctor." On first thought it seemed wise to treat this statement with "thunders of silence," but on further thought, the statement appears to be so narrow-minded and bigoted that one cannot refrain from referring to it, to condemn it unqualifiedly.

COFFEE AND TOBACCO

Are They Harmful?

Considerable difference of opinion exists as to the habitual use of coffee and tobacco, ranging from absolute condemnation to approval of use in moderation. To be sure, these drugs are not in the justly restricted class causing moral degeneracy; but it does seem unfortunate that their commercial exploitation, coming at a time of laxness in the public ideals, has extended their use so greatly as to include a large proportion of the population.

That both of these substances have a demonstrated effect on the nervous system, and hence on the entire body economy, cannot be denied, and it is doubtful whether this effect is not distinctly harmful, even though the damage may be wrought by imperceptible degrees. Until definite proof can be brought to the contrary, physicians would do well to discourage any further extension of these habits among their patients, and to limit themselves to only a very moderate use at least.

An interesting study has recently been conducted by an industrial fellowship of the Mellon Institute of Industrial Research, of Pittsburgh, on the subject of coffee drinking, especially in childhood and old age. Their report states that "it is entirely conceivable that the use of caffein-containing beverages by the child will lead to the production of serious nervous defects later in life," and may possibly be a contributing agent in the increasing nervous instability of American people. The average annual consumption now amounts to thirteen pounds or more per capita. In a survey made by the United States Department of Labor among a large number of preschool-age children at Gary, Indiana, it was found that two-thirds of the entire group drank coffee habitually, and forty per cent, more than once a day. In certain groups of foreign-born parentage, coffee was drunk by more than ninety per cent of the children. C. K. Taylor, in 1912, found that those children who drank the most coffee received the lowest grades.

The greatest injury done to children by this drink is in its replacing milk in the diet, since coffee drinking by children appears to be "inversely proportional to the use of milk." Aside from any other harmful features, this is a valid argument against its use by children.

In the aged, as recently pointed out by Professor Oliver T. Osborne, "the action of caffein is to increase general nervous irritability, cause polyuria, and especially to stimulate the thyroid and parathyroids to abnormally increased activity, with the result of more nervous irritability and muscular irritability and trembling. Caffein often raises the blood pressure where such an increase of blood pressure is not needed." He is of the opinion that caffein-containing beverages serve no useful purpose in the case of the aged, and that caffein should be entirely avoided except in instances where the therapeutic use of the alkaloid is indicated. While not so positive in his views, Professor Samuel C. Prescott, after an investigation of the effects of coffee, concluded that although harmless for the majority of adults, "many individuals find with

advancing years that smaller quantities will suffice."

The Mellon Institute report concludes that in old age, sedatives rather than stimulants are called for, and that tea and coffee should be avoided, not only because they are undesirable irritants of the nervous system, but also because they have a harmful effect on the blood pressure, cause excessive uric-acid production within the body, and may produce abnormal activity of the thyroids and parathyroids.

Apropos of the claim that tobacco will counteract the stimulation and irritation of caffein, Mendenhall's work, recently described in full in the *American Journal of Physiology* (lxxii, 549), is of interest. It deals with the influence of smoking upon the sensory threshold—the ability to recognize weak induction shocks applied to the fingers. The indications are clean cut. Smoking is found to increase sensibility when the initial stage is one of depression, and to diminish it when the original condition is one of hyperexcitability. In other words, it tends to establish a mean between the possible extremes.

The striking thing about this finding, according to Percy G. Stiles, writing in the *Boston Medical and Surgical Journal,* is that it is in substantial agreement with the subjective judgment of the smoker. He will probably state that his cigarette helps him to arouse himself when he is feeling torpid, but quiets him when he is uncomfortably irritable. At first thought, this seems too good to be scientifically true; but Mendenhall discerningly points out that rest and sleep have just this action on the nervous system. They also tone up or tone down, according to the direction of the previous departure from the norm. They make for a return to the optimum. In Mendenhall's opinion, these definite effects are due to nicotin, and are not obtained by smoking cubebs or other tobacco substitutes.

It has not been satisfactorily demonstrated, however, that the habitual use of nicotin is not attended by undue nerve strain. Even though the effect appears to be that of sleep (to aid in the restoration to normal), artificial stimulation or relaxation by the use of drugs cannot be used indefinitely as a substitute for the periodic rest required for renewal of living tissues. The danger in this type of drug is that it enables the user to exert himself past the point of safety, with chronic exhaustion as the result. It is not impossible that the so-called "smoker's heart" may develop in some such manner.

Granted, furthermore, that nicotin will annul the stimulating effects of caffein, unless these drugs are direct chemic antidotes, does it necessarily follow that there is no attendant strain on the system? Would not the effect be much like that on a wire stretched from both ends? No change in position is effected, but the strain on the wire is greater than if it could have yielded to the stress in one direction or the other.

Why not look our bad habits bravely in the face, and admit that even though in many cases caffein and nicotine do no apparent harm, neither do they do any demonstrable good except in emergencies or as an occasional indulgence. While their increasing use can in no way be designated a calamity; nevertheless enough of a case has been made out against them to warrant the profession in discouraging any increase in their use.

PATHOLOGY AND THE SURGEON

In these days of modern surgery it is the custom for the surgeon to have examined by the pathologist, both grossly and by histological section, all tumors and tissues which he has removed and in which there is a probability of malignancy or a possibility of beginning malignant change.

Some surgeons go so far as to insist upon having every tissue which has been removed at operation examined by the pathologist. Does it not befit the surgeon, then, to have some understanding of pathology?

While it is not essential for the surgeon to be an expert histologist and pathologist, it is absolutely necessary for him to know enough of histology and pathology not only to interpret the reports of the pathologist but actually to visualize the conditions described by him, and to draw his own conclusions from these descriptions.

The pathologist should not be expected to submit to the surgeon a *diagnosis* made from the microscopic examination of the tissue, for this is at times impossible. The surgeon may submit a fragment of fat or fibrous tissue, and if the pathologist does not know that it was taken from a neoplasm, he may not be able to diagnose it as a lipoma or fibroma.

A surgeon once sent to a laboratory a piece of tissue for diagnosis. The pathologist diagnosed it as normal brain with pia mater attached to the surface. The surgeon thought that the pathologist was in error, for he had removed it from a tumor within the nose. Had the pathologist merely submitted a report of the his-

tology of the tissue, the surgeon, if versed in pathological histology, could have, himself, made the diagnosis of meningo-encephalocele of the nose.

The surgeon should make his own diagnosis from the histological description, together with his knowledge of the case, history, gross pathology, appearance and condition of the site from which the tissue was removed, etc.

If the pathologist speaks of giant cells, the surgeon should immediately think of certain conditions such as tuberculosis, syphilis, giant-cell bone tumor, giant-cell sarcoma, foreign-body irritation, or possibly cholesteatoma or decidua, and so on; and if collections of endothelial leukocytes or caseous areas surrounded by zones of small round cells are mentioned in connection with the giant cells, the surgeon should know that the condition is tuberculous. On the other hand, if a stroma of spindle-shaped cells of embryonal connective tissue is described with the giant cells and the tumor is from a bone, the surgeon should know that the condition is a non-malignant bone cyst, but if this exact condition occurs in the breast or thyroid gland, he should know that it is a very malignant giant-cell sarcoma.

The surgeon should know the histology of the blood vessels and when, in connection with the presence of giant cells, the pathological report mentions proliferation of the intima with perivascular infiltration of small round cells, he should know that in all probability the condition is syphilitic.

The histological structure of a gland should be well known to the surgeon—the lining of epithelial cells, the basement membrane or membrana propria, and the stroma or tunica propria. He should be cognizant of the fact that the proliferation of these lining epithelial cells may be the first step in cancerous change, that penetration by these cells of the membrana propria into the tunica propria is generally indicative of cancer, and that when normal epithelial cells become cancerous, certain changes occur such as increase in size, irregularity in shape, reticulation of the nucleus, with the presence of chromatophilic granules, mitotic figures, etc. He should also be familiar with the reactive changes to irritation—the invasion of wandering cells, proliferation of fibroblasts, and so on.

It is surprising how few surgeons have a knowledge of these fundamental processes of pathology and how few know any histology. It is also a fact that the majority of those surgeons who have attained marked preëminence in their profession do possess such knowledge, and there is but little doubt that in the future to attain any degree of success, the surgeon will necessarily possess knowledge of histology and histological pathology as well as gross pathology and anatomy.

HEALTH PRESERVATION NOT COMMERCIAL

It is reported that some practitioners hesitate to suggest periodic health examinations to their clientele because such action seems to them to have an aspect of commercialism. The family physician is the most important factor in spreading the gospel of health examinations, and it will be a matter of regret if an erroneous idea of medical ethics delays his participation in the movement.

There is a great difference between imposing our professional services on sick people who have not voluntarily placed themselves under our care, and offering a means of health conservation to those who are apparently well. The laity are beginning to realize that when health is lost, all is lost; and they are looking to the medical profession for guidance in health preservation. The promotion of health examinations among our families is an announcement to them that we recognize our responsibility and are ready to assume the leadership in preventive medicine.

A physician who is capable of making health examinations in an efficient manner, and who tells his patients that he is ready to give this service, will never be charged with commercialism by any individual with the least spark of intelligence or enlightened self-interest. The American Medical Association has given its official sanction to this method of introducing periodic examinations, and has decided that it is in accord with the principles of medical ethics.

In educational literature addressed to the laity, organized medicine should point out the economic advantage of paying to the health examiner a fee commensurate with the value of his services.

THE COMMUNITY TRUST

"I have been," says Dr. W. J. Mayo, "a regent of the University of Minnesota since 1907. Very often the University has received gifts which were limited by certain outstanding conditions, most desirable when imposed, but which have become so 'frozen' by changing times as to defeat the purpose of the giver. At the present time, the regents urge every donor to the University, in framing the terms of gifts, to allow sufficient latitude to carry out the spirit without

confining the executors to the letter. In no case have we failed on simple explanation to convince the donor of the desirability of this provision."

This is an adequate description of the reason for the conception of the idea of a community trust or foundation. The plan was developed in 1914 by Judge F. H. Goff, of Cleveland. It is a method of bringing together numerous small or large gifts, with the funds administered by a bank or trust company, and the income from them administered by a board of trustees appointed partly by the banking institution and largely by public agencies. It avoids dead-hand control, and substitutes flexibility; and provides for business control of investments, and social control of expenditures.

Fifty-two community trusts have been organized in American cities during the past eleven years—all of them since the beginning of the World War. Eighteen are now distributing income. One of the latest to be established is the New York Community Trust, with a list of prominent banks and trust companies named as trustees. This foundation has been approved by the New York State Board of Charities, by leading business men of the city, by members of the bar, the Chamber of Commerce, and lately by leading physicians of the country, including George Emerson Brewer, George W. Crile, Charles L. Dana, Charles H. and William J. Mayo, and others, representing leading medical societies of the country.

Each fund placed in its care constitutes an independent memorial. Each is placed for investment and safekeeping with one of various banks and trust companies acting as trustees of the fund. And each has all the expenditures of income supervised by a central distribution committee, one member of which is named by the president of the New York Academy of Medicine.

Further information may be secured from Dr. Walter B. James, 7 East 70th Street, New York, of the distribution committee. The movement commends itself to the good judgment of all who are interested in public affairs, and it is recommended that the members of the profession lend their support to the further development of the idea.

"NATURE HEALERS" BUSY

An industry that is making rapid strides in the theatrical district of New York, according to the New York *Times,* is the physical-culture lecturing which is daily luring crowds of people into empty stores, where robust-looking individuals with swelling muscles and leathery lungs induce them to buy books that deal with the proper care of the body. In balmy weather, these lecturers migrate to the boardwalks at the seashore, where they vie with the palmists and the phrenologists in telling people about their welfare. The methods of the physical culturists are directly opposed to those of the patent-medicine fakers, who in past years would volunteer to "cure all the ills that flesh is heir to." The physical culturer plays upon the human fear of physical distress and death. All ailments are provided against in the physical-culture book.

Here, again, is an instance where periodic health examinations, with intelligent advice by the physician, will prove of inestimable value to the public.

JOTS AND TITTLES

GRATUITOUS SERVICE BY PHYSICIANS

The complaint frequently heard regarding the cost of medical service is well answered by the following figures prepared by the National Endowment Fund of the Physicians' Home.

Based only upon incomplete returns, it is computed that the hospitals of New York City give a minimum of 5,020,502 "free hospital days" to charity patients, and the physicians and interns connected with these institutions give free service worth, at the lowest calculation, $15,061,506. Taking these figures as a basis, the national value of free service rendered through institutions would be well over $135,553,554 annually, making a per-capita contribution to the community welfare of $821 for every physician in the United States. This does not allow for the charity service rendered by the physician in the course of his practice, nor for the large amount lost by unpaid bills. Neither does it allow for the economic value of the research work done by physicians the world over, the results of which are freely given and without adequate return to the donors. It has been computed by conservative physicians that 40% of their service is gratuitous, either through voluntary service or through failure of patients to pay their bills. This is a large contribution, considering that the average income of the physician, according to figures printed some time ago by the American Medical Association, was $1,000.

It is not surprising, then, that physicians are decreasing in the more sparsely settled regions, and that there is real need for an institution such as the Physicians' Home, where aged and disabled physicians and their wives may be cared for. A contribution which will enable this movement to expand is in the nature of insurance, and may be sent to Dr. Albert G. Weed, Treasurer, 22nd floor, Times Bldg., Broadway and 42nd St., New York City.

THE MARTYR

The obituary of a physician who "died a martyr because he never took a vacation and stayed on duty all the time, even when nature sent her warning signals that he ought to slow up," inspires the remark that this was a foolish and unnecessary kind of martyrdom. Better far to save his valuable services and his cherished presence for the natural span of his life. Some

one else will have to carry his burdens now. Had he shared them with others while he was here to advise, doubtless they would be less oppressive to those who have inherited them. Every physician owes it to himself, to his family, and to his patients to care properly for his own health—and this entails rest and vacations when and as needed.

Helping the Stranger to Choose His Physician

The stranger in a large city is sadly in need of some accessible and authoritative agency where he can find a list of reputable physicians and their specialties. By the present plan, his selection is left to chance or to the recommendation of others who may in no wise be fitted to judge of the qualifications of medical practitioners. Doubtless, many strangers thus fall into the hands of charlatans, and have difficulty in making an acceptable selection. This matter should be taken up by all county societies whose territory includes large cities, or even good-sized towns. Such information is available to physicians, and it should be made accessible to inquiring laymen.

The Rewards of Science

Press reports tell us that Dr. John J. Abel, professor of pharmacology at Johns Hopkins University, has been awarded the first annual prize of the Research Corporation of America, for "having done more to promote human enjoyment of life than any other living American scientist." The sum amounts to $2,500 a year. Dr. William E. Gye, as a result of his notable work in cancer research, has been awarded a prize of $1,500. If the scientist were to consider only the financial profit that would accrue to himself, little of the research work that has so greatly benefited the human race would be done—or else it would be kept secret and exploited for the benefit of the discoverer rather than of the people. Fortunately for the world, there have always been men and women who were so constituted as to place service before self. Let us honor them more. Let us see that their reward is more commensurate with their work than in the past.

Work for the Self-Supporting Student

The increasing cost of a medical education makes it all the more necessary that students be assisted to means of earning their own way. Two rather unusual methods have recently come to our attention. Several boys are reported to make a fair sum by selling their blood for transfusion, but Victor I. Eagan, a medical student in the University of Minnesota has a still more unusual business. He is a parachute jumper. Organized medicine should do its share to assist the worthy student, not only by providing scholarships, but by helping to find them jobs.

New Elements Added to Treatment of Tuberculosis

The universally acepted treatment for tuberculosis has included rest, proper food, and fresh air. Today there have been added two other elements of equal importance —graduated exposure to light, and some occupation suited to the condition of the patient which will aid in keeping a cheerful and contented state of mind. Among the very ill, the need for diversion that calls for no exertion has been met by the New York Tuberculosis and Health Association by the use of music. Volunteer entertainers have been secured in many ways, and have taken directly into the wards their cheerful and heartening selections. Needless to say, morbid music is entirely taboo; the numbers are usually short, tuneful, and melodious.

Universally, the physicians and nurses who have charge of the patients commend this innovation. They find that music does indeed bring about a greater degree of contentment, and thus reduces complaints; that patients become more coöperative, that appetites are stimulated, and that the treatment is more effective because of the change in mental attitude. An interesting description of this work, by F. D. Bell, and Mrs. I. M. Ilsen, of the Association, appeared in the *Modern Hospital* for September, 1925.

Drugs in Army Vials Found Mislabeled

The mislabeling of certain stores purchased from the Quartermaster's Depot at the conclusion of the war figured in a case prosecuted by the District Attorney's office in Philadelphia, and leads one to wonder whether the same criminal mistake might not have caused the death of soldiers during the war. In this particular instance, a vial containing one sixtieth of a grain of strychnin sulphate was labeled "morphin." There are now 25,000 such vials in the custody of the District Attorney's office, and though the city chemist has analyzed a number of others and found them to be properly labeled, he does not feel that the drugs should be released under the circumstances. The case is Commonwealth versus Barney Puro, a truck driver. Puro, it is alleged, was hired by a New York firm to transport the purchased Quartermaster's stores to the New York office. It is said that he conspired with three companions to spirit the drugs away to a cave on a Collegeville farm, where they were unearthed. The New York drug concern wishes to obtain the drugs, many vials of which contain undiscovered poisonous contents. (Since the above was written, these drugs have been destroyed by order of the court.)

PUBLIC HEALTH

The Rights of the Well.—The medical profession has been so busy with the routine of caring for the sick and disabled that it has given little attention to the well and able-bodied individual. But now so many people are demanding that they have a thorough inventory taken occasionally, that the doctors are really taking note of it and are inquiring where they can get a good blank for this purpose. The American Medical Association publishes a blank, and many physicians are using it.*.....The value of having a good blank and being familiar with it is that one may proceed with a complete examination much more quickly by having a definite routine and following it.....There are two points to be emphasized. The first is that we want to get the idea across to the laity: *"Go to your family physician first."* This has been done in many cities and counties in New York by putting on a health-week campaign.....Articles urging health examinations have appeared periodically in the public press.

The second point to be emphasized is that general practitioners should be prepared to take care of their patients when they come. The public is becoming educated today to demand a scientific and up-to-date attitude on the part of the physician. The present transportation facilities do not require people to employ the doctor around the corner. If they do not get service at home, they go elsewhere. After all, service is what we have to sell, but it must be scientific. The public is willing to pay for the service it demands. It is up to us to render that service and charge for it.—W. W. Britt, Committee on Medical Economics.

* Blanks may also be obtained from the Medical Society of the State of Pennsylvania, 230 State St., Harrisburg, Pa. Price $1.00 per pad of 100 blanks.

Confusion of Terms.—The words *insanity* (mental disease) and *feeblemindedness* (mental deficiency) are so frequently used interchangeably and synonymously that it does not seem amiss to present the general distinction between the two.

Insanity is "solely a legal and sociological concept, and so used to designate those members of the community who are so far from able to adjust to the ordinary social requirements that the community segregates them (forcibly perhaps) and takes away their rights as citizens. Insanity is a form of social inadequacy which medically may be the result of many varieties of mental diseases." (White).

Esquirol, who was the first medical writer to define clearly the term *feeblemindedness*, pointed out that it is not a disease, but a condition in which the intellectual faculties are never manifested, or have never been developed sufficiently to enable the feebleminded person to acquire such an amount of knowledge as persons of his own age, placed under similar circumstances with himself, are capable of receiving. It is present from birth or immediately afterwards.

Insanity is a legal term (quite inadequate) for mental disease, while feeblemindedness is synonymous with intellectual defect. What is commonly known as insanity is a group of mental diseases of various kinds. Feeblemindedness is lack of intellectual capacity in varying degrees.

In the case of a person suffering from mental disease, the mind has developed but does not function normally; whereas the mind or, better the intellect, of a mental defective has failed to attain normal development, either through lack of potential power to develop or through injury or destruction of that power in early life from intercurrent disease, usually an infection.....The distinction between them was summed up very aptly by the late Dr. E. E. Southard when he stated that one was a mental *twist* and the other a mental *lack*.—*Mental Hygiene Bulletin.*

Defective Vision.—One third of 2,044 children under school age examined in Gary, Indiana, were found by Federal investigators to suffer from defective vision. These results, made public by the Eye Sight Conservation Council of America, are set forth in a report made to Secretary of Labor James J. Davis, a member of the Council's board of councilors.

Out of the 2,044 children given vision tests, slightly more than one third, or 36.1 per cent, showed defective sight of varying degrees, with apparently no significant relation to age, although those in their fifth year showed a slightly higher percentage than any of the others. In 108 cases, or 5.3 per cent of the whole number tested, the vision was seriously defective in both eyes, and the need for glasses was imperative, although only 10 per cent of these children so urgently in need of glasses were wearing them. The other 90 per cent were not even cognizant of the necessity. There was a high proportion of cross-eyed children, actually 2.4 per cent of all the children, but here again corrective glasses for this defect were being worn by only one seventh of those thus affected. Only one boy, out of the total of 33 boys with cross-eyes was wearing glasses.

The time to begin to preserve eyesight is at birth. The eyes of all newborn babies should be treated with drops to guard against infection. Since the eyes are not fully developed at birth, the baby should sleep in a darkened room for the first three or four weeks of life. Baby's eyes should never be exposed to the direct rays of the sun. A rattle or other toy hung from the top of the baby carriage is a common cause of eyestrain. The toys, games, puzzles, and picture books used by children should be big and clear. Anything that demands close inspection in order to be seen and enjoyed is not a proper toy for a little child. The inadequate illumination provided in so many homes also inflicts severe strain upon the immature eyes of children. They should not be allowed to play games, read, or study on the poorly lighted floor or in dark corners of the room, or by the window during twilight. Unshaded, glaring light is just as harmful as insufficient light.

A child who starts out in life handicapped by poor or painful vision has a constant and losing struggle.

Health Publicity.—A public campaign directed against the evils of placing too much reliance upon the power of printed material as a recommendation for regaining health is being waged by a prominent life insurance company. The first of their series of advertisements which appeared in many of the leading magazines, was termed "The Magic of Print."

It depicted the medical minstrel of a decade ago, and contrasted the methods of that day with those used today. "The old patent-medicine fakir," the advertisement asserted, "who held forth on street corners at night with his flambeau torch and his amazing, rapid-fire lingo knew well the magic of print. And the army of quacks who followed him have made use of the same magic. Most men and women accept without question printed statements which they might discredit were the same words spoken.

"Never before in the known history of the world has there been such an orgy of fake cures as there is today. We are living in so wonderful an age, such marvelous scientific discoveries have been made—such amazing feats have been accomplished—that people believe almost anything is possible. The quacks are quick to take advantage of this credulity. You will find them trailing along in the wake of every announcement of important medical research, with false claims of their 'discoveries,' their fake mechanical appliances and special treatments, their 'health institutes,' and their offers of free diagnosis and treatment by mail."

Such publicity campaigns should, in time, have a marked effect upon the thousands of individuals who place reliance upon the advertised "sure cures" and patented preparations of no known therapeutic value. While Barnum declared that the "American public likes to be humbugged," few folks like to be fooled in matters vital to their health. Once informed, the majority, at least, will refrain from wasting time, money, and health with these charlatans.—Abstracted from the *Ohio State Medical Journal.*

INDUSTRIAL MEDICINE

The Ventilation of Large Vats.—Large vats are used in many industries, as in the manufacture of cider and acids, and in connection with tanning, etc. They vary in size from that of the average barrel up to diameters of thirty-five feet, and in heights from forty to fifty feet.

It becomes necessary at intervals to clean these vats thoroughly, and at the present time there seems to be no other way to accomplish this than to have men enter the vats and clean them by hand labor. While this in itself seems to be a simple problem, many of the cleaners have been overcome by inhaling the fumes arising from the interiors of the vats, and some deaths have occurred from this cause.

The writer believes that this hazard may be overcome by using a small power-driven fan having an inlet and outlet of three inches or more in diameter. To the fan inlet should be joined a hose three inches or larger, and a current of air under partial vacuum should be exhausted from the vat in such volume as to cause a complete change of air in the vat once every five or six minutes. In this way, fresh air will flow into the vat (through its opening) thus replacing the foul air, which will have been exhausted by the fan.

The lower end of the suction hose can be lowered into the vat down to within a foot of the bottom, the fan started two or three minutes before the man who is to clean the vat enters, and in this way a comparatively clear atmosphere may be maintained, thus overcoming a grave hazard.—F. H. STEBBINS, Mechanical Eng., *Industrial Hygiene Bulletin,* New York Department of Labor, Dec, 1925.

Calcium and Tuberculosis.—Dr. Miriam S. Iszard, in her doctoral thesis in the Graduate School of the University of Pennsylvania, comes to the following conclusions as the results of experimental work on the effects of lime dust on tuberculosis:

Calcium hydrate dust is not harmful to the lungs of rabbits. It apparently acts as a mild stimulant, causing the migration of macrophages which remove traces of silica present in the calcium dust. The harmlessness of calcium-hydrate dust may be attributed both to its physical and to its chemical nature. The roundness of its particles prevents them from doing marked injury, and their tendency to coalesce prevents many from gaining access to the finer bronchioles. Moreover, the fact that it is soluble in the body fluids permits of its partial removal by way of the blood stream.

When inoculation with tubercle bacilli follows a period of lime-dust inhalation, there seems to be a very slight retardation in the development of tuberculous lesions, which nevertheless are indistinguishable from the customary lesions of this infection in rabbits.

When the lime-dusting occurs after the inoculation with tubercle bacilli, there is a more distinct retardation of the tuberculous development, explainable possibly on the ground that the lime causes an overproduction of macrophages which render inert the tubercle bacilli. Since the lime is soluable in the body fluids there is no noticeable accumulation of foreign mineral matter.

As dissolved calcium is always present in the blood stream as bicarbonate and phosphate, the excess, introduced by such experiments as have been detailed, must be deposited in those organs normally characterized by a high calcium content, such as the bones, kidneys, and lungs. In a tuberculous condition where we have a calcium demineralization, any increase in calcium would tend to balance the existing deficiency and permit of an approach to normal.

Carbon-Monoxid Poisoning—A Delayed Fatal Case.—E. R. Hayhurst abstracts in the *American Journal of Public Health* for November, 1925, the following case, reported by J. M. Thorne in the *Pittsburgh Medical Bulletin* for March 7, 1925:

"Thorne's patient, a man aged 42, gave a lecture and demonstration of an automobile engine in a room, after which he left for home. Shortly after reaching the fresh air, he felt weak and quite ill, but managed to take a street car, remain on the platform in the air, and stagger up the stairs to his home. Thorne saw him shortly after, when he was in bed, very weak, skin cold, and complaining of air hunger. Color rather pale. Said he could not take a breath deep enough to satisfy. Pulse weak, about 80. Temperature subnormal. Examination of lungs negative. Temperature at noon the next day was 101° and later increased to 102-2/5°. No cough, pulse 100, respirations normal, pain in lower chest on deep inspiration. In 48 hours after exposure, he had free bloody expectoration with frothy mucus, but no cough except on clearing his throat. On the third day, signs of pneumonia of a bronchial type developed, but with limited areas of consolidation. He was never cyanotic until shortly before death. The blood count showed white cells 15,200, hemoglobin 70-80, blood red and clotted well. Patient died on the fifth day, having developed hiccough and edema of the lungs.

"May this not have been a case of NO-hemoglobin similar to the one described by Banham, Haldane and Savage, and due to a nitrifying microörganism concerned in the pneumonia present? It is certainly unusual to find a case of carbon-monoxid poisoning growing worse after removing from the place of exposure upon his own volition and abilities. Almost invariably, inability to move or unconsciousness occurs in victims who later die from the effects of CO gassing."

Types of Medical Service in Industrial Plants in Philadelphia.—In the *Nation's Health* for November, H. D. Brown gives an account of the survey of industrial medical service in Philadelphia made by the Philadelphia Health Council and Tuberculosis Committee and the Philadelphia Association of Industrial Medicine.

This paper presents the following interesting and suggestive tables showing the incompleteness and inadequacy of such service as at present rendered.

EXTENT OF MEDICAL SERVICE IN INDUSTRY IN PHILADELPHIA IN 1924

Plants according to number of employees	Total Plants	Plants according to types of medical service: Complete	Incomplete	Emergency	None
Total plants	873	46	64	365	398
Employing less than 75	400	....	10	148	242
75-149	162	....	3	89	70
150-299	118	4	17	63	34
300-499	83	8	11	30	34
500-999	70	9	15	33	13
1,000 and over	40	25	8	2	5

PERSONNEL IN MEDICAL SERVICE IN INDUSTRIAL PLANTS IN PHILADELPHIA IN 1924

Plants according to personnel in medical service	Total Plants	Plants according to number of employees: Less than 300	300-499	500-999	Over 1,000
Total plants replying	108	26	20	28	34
Plants employing:					
full-time physician and nurse	14	1	1	1	11
part-time physician and nurse	29	3	7	4	15
physician (full or part time) and first-aid attendant	12	2	2	6	2
physician (full or part time only)	14	4	1	4	5
physician on call and nurse	10	4	3	3	....
nurse only	7	2	....	5	....
physician on call and first-aid attendant	15	6	4	4	1
physician on call only	2	1	1	....	....
first-aid attendant only	3	1	1	1	....
no professional worker	2	2	....	....	....

Fumes From Soldering Stoves.—Tests made by the New York Department of Labor show appreciable amounts of lead dust in the air of work rooms containing improperly hooded or unhooded soldering stoves. The lead concentration in one instance in a well ventilated room reached 0.2 mg. per cu. m., which Dr. Salls of the Department considers the maximum quantity that can be tolerated with safety by a worker.

Bush Terminal Hospital.—This nine-room hospital, located in the Bush Terminal Buildings in Brooklyn, serves the company employees and those of the three hundred or more lessees operating factories on the premises of the two-hundred-acre plant.

In accordance with its charter, the patients may not remain at the hospital overnight. In instances where illness prevents removal home, the man or woman is sent to any of several hospitals near the home or near the factory with which the Bush Terminal coöperates. These include the Prospect Heights Hospital, Harbor Hospital, and the Jersey City Hospital. Here, special rates, if justified, for rooms and for x-ray, as well as for other service, are secured through a social-service worker who investigates home conditions carefully before asking special consideration from outside organizations.

Allied with the hospital health service are the Bush branches of the "Y" restaurant on the premises, in charge of a competent dietitian, whose duty it is to provide balanced food of nutritive value at lowest cost.

Loans are made to employees after a short investigation, not as a charity, but on a purely business basis. The patient is then relieved of the worry of home responsibilities while he is ill. The Bush company further pays two thirds of a worker's salary while he is absent because of illness. It also tries to rehabilitate the worker who has been out for a long time.

The Bush Terminal Company further considers its responsibility as an employer by conducting loan and employment bureaus for those who work within its walls.—*Hospital Management,* November, 1925.

HOSPITAL ACTIVITIES

Philadelphia Hospitals Select Their Interns.—The coöperative scheme adopted by the leading hospitals in Philadelphia, comprising the Philadelphia Hospital Association, was again effective in securing interns for the institutions participating.

Examinations were held in these hospitals from January 5 to January 13, inclusive, and the list, setting forth the assignment of interns was published on Friday, January 14.

The Philadelphia General Hospital (which required the greatest number of interns), while in sympathy with the plan, could not fully coöperate because of legal Civil Service requirements, and selected its interns during this period from a list of over a hundred eligibles. Not the least of the advantages of this plan, from a local standpoint, is the fact that good young medical men are encouraged to stay in Philadelphia, and thus in years to come do their part in maintaining the prestige of Philadelphia in medicine.

"Look Before You Leap."—Often communities rush into a hospital-building program without having adequately studied their local needs, from a hospital standpoint. It is possible to estimate, on the basis of present and prospective population, not only the number of hospital beds needed, but also the amount of space required for the various types of wards, private rooms, dispensaries, etc. In a recent number of the *Modern Hospital,* Dr. S. S. Goldwater, of the Mount Sinai Hospital in New York City, decries the fads which so often creep into hospital building, and urges the practical above everything else. Knowing the community needs is the first great step toward learning how much money will be required for construction and endowment. If a community feels that it needs a hospital, let it look many times at all angles of this need before it leaps *once* at the job of laying bricks.

The Hospital and Health Examinations.—Dr. C. W. Munger, of the Grasslands Hospital, Valhalla, New York, has the following to say relative to the hospital's part in furthering health examinations of those not ill:

"It seems to me that the hospital is the best place to conduct periodic health examinations, because of its laboratory and x-ray facilities. There would, perhaps, be little objection from private physicians, if the hospital gave examinations but not treatments to patients able to pay, but sent them with recommendations to their family physician. I believe that there is something to be said, however, on behalf of the family doctors who are equipped to do proper examinations. They might justly criticize the hospital for depriving them of fees for the examinations, although many of them would probably be grateful for assistance from the hospital. I see no reason why private hospitals, with sufficient facilities, should not establish pay clinics in which these examinations could be carried out."

We agree fully with Dr. Munger's statements. But let the hospital, first of all, be sure that infective employees are not endangering the health of its own patients. In some instances, it is a case of "physician, cure thyself," before the hospital should spend its time and money on health examinations of those outside.

The Philadelphia General Hospital's Food-Handlers' Clinic.—For the past year and a half a clinic for the examination of those persons, who, as employees of hotels and restaurants, handle food, either in the process of preparation or service, has been maintained at the Philadelphia General Hospital.

Many hundreds of persons have been examined, and whenever—as has happened not a few times—the applicant for a certificate has been found to be infected with a transmissible disease, treatment has been given in one of the other clinics which the institution conducts. Can not your hospital, doctor, render a similar service to the citizens of your community?

New York City Takes Over Three-hundred-and-fifty-bed Hospital.—The Lincoln Hospital, an institution for colored patients, has been recently absorbed by the New York City Hospital system. The sum of $750,000 was paid by the city, which amount is to be used for the construction of a new nurses' home. The hospital had run a deficit of $70,000, annually, the city paying for free patients $2.50 a day, while it cost $4.15 to care for such patients.

Fire Destroys New Jersey Hospital.—A fire, on December 14, completely destroyed the Home of Divine Providence, Paramus Borough, a hospital and home for incurables, causing a loss estimated at $700,000. All the 175 inmates and patients were safely taken from the burning building by eleven sisters who were on duty, and by townspeople attracted by the blaze. Three buildings, including the chapel, hospital, and the home, proper, were destroyed. All were of stone construction.

Doctor, is your hospital fireproof? And even if it is, do you notice on your visits whether fire drills are being held by the superintendent?

Dr. Leckie Now Superintendent.—Dr. John W. Leckie, Hazleton, Pa., has been appointed medical director of the new $450,000 West Mountain Sanatorium, Scranton, Pa., recently opened.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

1926 SESSION OF THE AMERICAN MEDICAL ASSOCIATION

Those of our members who are planning to attend the 1926 session of the American Medical Association at Dallas, Texas, April 19-23, 1926, should remember that only Fellows of the American Medical Association are eligible to register at the annual session or to take part in the scientific discussions. Every member in good standing of a county medical society is a member of the American Medical Association, and may become a Fellow of the Association upon application to the Secretary, 535 North Dearborn St., Chicago, Ill. The application should be accompanied by the annual Fellowship fee of $5.00. One of the benefits of Fellowship, without additional cost, is the receipt for a year of the choice of the following publications: *Journal of the American Medical Association,* issued weekly, or the *American Journal of Diseases of Children,* monthly, or the *Archives of Internal Medicine,* monthly.

Certain passenger and tourist agencies are arranging special train accommodations for parties planning to attend the Dallas Session, and one or two golf specials are being planned.

VALUABLE SERVICE NEGLECTED

In the Secretary's Department, January Atlantic Medical Journal, appeared a brief paragraph mentioning the advisability of component county medical societies submitting to the Personnel Bureau of the American Medical Association the names of all their applicants for membership. Since the appearance of the above-mentioned article, the Secretary's office has been notified of the election to membership in one of our component societies of an applicant who has proved in the past to be an unworthy member of more than one component society.

It is not possible for all constituent state associations to maintain an information bureau regarding the professional history of all physicians. On the other hand, not to take advantage of the complete information regarding premedical and medical students, as well as all graduates, on record with the American Medical Association in Chicago, seems to be neglecting a valuable service to be had for the asking.

CASH PRIZES FOR INTERNS

The Allegheny County Medical Society has for a number of years formally elected to visiting membership in the Society all properly approved graduate physicians, serving as interns in the hospitals of Allegheny County. As a result of this practice, a large proportion of these visiting members, who have completed their internship and have been legally licensed, promptly become active members of the Society, without further formality than the payment of dues. The Allegheny County Medical Society has recently taken a further advanced step toward the stimulation of interest on the part of interns in county medical society affairs by offering annually a cash prize to the intern making the best case report.

ITEMS OF INTEREST

Annual Registration Law

The Department of Public Instruction at Harrisburg reports on January 15th that more than nine thousand physicians and drugless healers had sent their applications and money for registration.

Physicians licensed to practice in Pennsylvania, who are not at present practicing in Pennsylvania, but who are desirous of maintaining their

right to practice in this State, must register annually under the new Registration Act.

In the future the Mercer County Medical Society will hold its scientific meetings monthly.

The percentage of 1926 dues received at this office January 19th, from certain county medical societies is herewith indicated: Wyoming—90%; Columbia—73%; Union—62%; Greene—60%; Potter—60%; Montour—54% Montgomery—53%; Bucks—50%; Juniata—50%.

The Pennsylvania Examining and Licensing Board of Osteopathic Surgeons was organized September 29, 1925. To date, January 19th, no licenses have been issued by this Board.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since December 14th. Figures in the first column indicate county society numbers; second column, State Society numbers.

1925

Dec. 15	Dauphin	157	7479	(½-yr)	$2.50
	Cambria	148-154	7480-7486		35.00
23	Luzerne	267-269	7487-7489	(1½-yr)	12.50
31	Philadelphia	2041-2057	7490-7506	(15½-yr)	47.50
Jan. 6	Dauphin	158	7507	(½-yr)	2.50
	Venango	51	7508		5.00
14	Lackawanna	212-226	7509-7523		75.00

1926

Dec. 16	Beaver	1-9	108-116	45.00
	Adams	6-11	117-122	30.00
18	Somerset	1-2	123-124	10.00
23	Allegheny	1-16	125-140	80.00
	Delaware	1-3	141-143	15.00
	Huntingdon	12	144	5.00
	Montour	6-7	145-146	10.00
	Mifflin	1-2	147-148	10.00
29	Montour	8-9	149-150	10.00
30	Potter	1-3	151-153	15.00
	Lehigh	1-5	154-158	25.00
31	Erie	17-21	159-163	25.00
Jan. 6	Delaware	4-14	164-174	55.00
	Venango	4-5	175-176	10.00
	Greene	1-17	177-193	85.00
7	Northumberl'd	1-15	194-208	75.00
	Montour	10-11	209-210	10.00
	Delaware	15-26	211-222	60.00
8	Lancaster	1-17	223-239	85.00
	York	1-54	240-293	270.00
	Columbia	1-15	294-308	75.00
	Mifflin	3-11	309-317	45.00
14	Lycoming	1-51	318-368	255.00
	Montgomery	23-50	369-396	140.00
	Wyoming	1-8	397-404	40.00
	Juniata	1-6	405-410	30.00
	Mifflin	12-13	411-412	10.00
	Somerset	3-4	413-414	10.00
	Columbia	16	415	5.00
	Delaware	27-41	416-430	75.00
	Montour	12-13	431-432	10.00
15	Wyoming	9-10	433-434	10.00
	Clarion	1-9	435-443	45.00
	Venango	6-7	444-445	10.00
	Columbia	17-27	446-456	55.00
	Allegheny	17-200	457-640	920.00
	Montgomery	51-80	641-670	150.00
	Berks	1-60	671-730	300.00
16	Northampton	2-48	731-777	235.00
	Somerset	5-8	778-781	20.00
	Union	1-10	782-791	50.00
	Cambria	1-38	792-829	190.00
18	Lehigh	6-28	830-852	115.00
	Venango	8-13	853-858	30.00
	Delaware	42-48	859-865	35.00
	Potter	4-9	866-871	30.00
	Mercer	1-11	872-882	55.00
	Bradford	1-15	883-897	75.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to January 18:

ALLEGHENY: *New Members*—Nathan Ashinsky, 2031 Center Ave.; Harry M. Felton, 610 Warrington Ave.; Hugh R. Gilmore, 422 Frederick Ave., (Sewickley); Samuel Gomory, 703 Smithfield St.; Harold L. Mitchell, 121 University Place; George A. Rizner, 201 E. Main St., (Carnegie); Leo Z. Rubenstein, 38 Wabash Ave.; Oliver M. Warner, Marine Hospital, 40th St. and Penn Ave.; Krikor Yardumian, Montefiore Hospital, Center Ave., Pittsburgh. *Reinstated Member*—Edward Graver, 5643 Callowhill St., Pittsburgh. *Deaths*—Robert C. Clarke, (Univ. of Wooster, O., M. '81) Jan. 6, aged 71; Henry P. Ashe (Univ. of Pgh. '01) Dec. 30, aged 56.

BERKS: *New Members*—Solon N. Rhode, 220 N. 6th St., Reading; Clarence W. Schwalm, Shoemakersville.

BUCKS: *Death*—Byron M. Peters of Jenkintown (Hahnemann Med. Coll. '86) Dec. 20, aged 64.

DAUPHIN: *New Member*—S. S. Landis, Harrisburg.

DELAWARE: *New Member*—David Rose, 403 E. Broad St., Chester. *Transfer*—Daniel J. Langton, Clifton Heights, from Lehigh County Society.

FAYETTE: *Deaths*—George W. Gallagher, Connellsville (Univ. of Penna. '89) Dec. 17, aged 65. Peter F. Smith, Uniontown (Univ. of Mich. '87) Dec. 19, aged 69.

LACKAWANNA: *Reinstated Members*—Thomas L. Alexander, Spruce St., George J. Berlinghof, 1539 Wyoming Ave., Herbert D. Gardner, 345 Wyoming Ave., Patrick J. Heston, 213 Pittston Ave., B. N. Lurivitz, Dime Bank Bldg., J. A. McLean, Coal Exchange Bldg., James E. O'Toole, Connell Bldg., Thomas B. Rodham, 1820 No. Main Ave., Scranton; Frank J. Fox, Archbald; Enrico A. Leopardi, and E. Z. Myers, Old Forge; William Lynch, Farview Hospital, Waymart; Eugene R. Simpson, Peckville; Stanley M. Winter, Duryea.

LEHIGH: *New Member*—Max B. Walkow, 244 No. 6th St., Allentown.

LANCASTER: *New Members*—Troy M. Thompson, Elizabethtown; John M. Mustard, Millersville. *Death*—Winfield M. Thome of Mount Joy (Baltimore Med. Coll. '06) Dec. 26, aged 44.

LUZERNE: *New Members*—Albert R. Feinberg, 72 So. Washington St., Wilkes-Barre. *Reinstated Members*—Isaiah C. Morgan, 3 W. Broad St., Nanticoke; P. F. Hubler, 230 Parke St., Pittston.

LYCOMING: *Transfer*—Hugh K. Davis, Sonestown, from Sullivan County Society. *Resignation*—Franklin J. Norris, St. Peter, Minn. (to become member of Minn. State Medical Society).

MERCER: *Transfer*—Samuel J. Dickey, Grove City, from Crawford County Society.

NORTHUMBERLAND: *New Members*—Robert E. Purcell, 525 No. Market St., Victor J. Baluta, 710 N. Shamokin St., Shamokin.

PHILADELPHIA: *New Members*—Sterling G. Basney, 1134 N. 65th St., William Bates, 2029 Pine St., James E. Cottrell, 250 S. 18th St., Reuben Friedman, 877 N. 6th St., Major Henry Joseph, 1715 Jefferson St., Mary G. Knowles, Bank of North America & Trust Co., Rae V. Nicholas, 2401 S. 5th St., J. Vincent Penza, 1149 S. Broad St., Clarence E. Perkins, 2351 E. Cumberland St., Henry J. Sangmeister, 2309 Wharton St., Shahin

M. Shahinian, 5901 Cobbs Creek Parkway, George T. Smith, Naval Hospital, League Island, Samuel D. Spotts, 4731 Larchwood Ave., Frederick W. Sunderman, 2211 Locust St., Philadelphia. *Reinstated Members*—J. W. McConnell, 701 N. 40th St., Warren Walker, 1819 Chestnut St., Pedro J. Carreras, 2106 N. Hancock St., Philadelphia. *Transfer*—Kirksey L. Curd, 642 N. 13th St., and Louis S. Dunn, 1923 Spruce St., Philadelphia, from Delaware County Society.

Venango: *New Member*—P. Emery Huth, Franklin. *Reinstated Member*—Frank M. McClelland, Franklin.

Wayne: *Death*—Harry B. Ely of Honesdale (Jeff. Med. Coll. '86) recently, aged 60.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. W. Wayne Babcock, *Editor*
Rydal, Pa.

CONTRIBUTIONS REQUESTED

The column in the Journal devoted to the affairs of the Woman's Auxiliary is a distinct recognition on the part of the State Society of the women's organization. It is the most intelligent means of county communication, and every effort should be made to maintain this department. Will the president of each county auxiliary be personally responsible for sending information with regard to county-auxiliary affairs to Mrs. W. W. Babcock, Rydal, Pa., immediately after the meetings? It is exceedingly helpful for a backward county to know of the work in an active county, and for an active county to receive inspiration and stimulus from neighboring energetic auxiliaries. Without greater coöperation on the part of the individual counties, this department will be unable to hold its place in the Journal.

ORGANIZATION OF COUNTY AUXILIARIES

In spite of repeated appeals, thirty counties in Pennsylvania are still unorganized. In order to ascertain the attitude of the medical societies in these counties, the Chairman of Organization has sent this letter to the incoming county presidents:

"My dear Mr. President:

"The following is an abstract from a letter sent November 24, 1924, by Dr. J. Norman Henry, then president of the Pennsylvania State Medical Society, to the president of each county medical society:

" 'At the state Medical meeting in Reading, October 19, 1924, the House of Delegates approved the formation of a Pennsylvania Branch of the Woman's Auxiliary to the A. M. A., to consist of wives, daughters, mothers, and sisters.

" 'The purpose of the Pennsylvania Auxiliary will be to aid doctors in bringing about better legislation, to relieve the State Committee at annual meetings from the responsibility of entertaining the ladies, and to respond to any call the State Society may see fit to make.'

"At the State meeting in Harrisburg on October 5, 1925, thirty-four counties reported definite organization, and met with the approval of Dr. Ira Shoemaker, the incoming State president.

"Your county did not send representatives, and is still listed among the unorganized counties. If it is your feeling that the Woman's Auxiliary is unnecessary or unwelcome in your county, will you let me know, and I shall not trouble you further. If, on the other hand, the lack of organization is a mere oversight, may I ask you to appoint an organizer, sending her name and address to me.

"Sincerely,
"Mrs. William E. Parke,
"1739 North 17th Street,
"Philadelphia, Pa."

County Society Reports

ALLEGHENY—DECEMBER

The December meeting was held at Carnegie Library Lecture Hall at four o'clock of the 15th. In order that the members could attend meetings without losing their evening office hours, this new feature of afternoon meetings was tried, and proved successful, and the arrangement will be continued for the time being. The very interesting program that follows was presented.

G. A. Holliday, M.D.: Treatment of Acute Gonorrhea.—The use of the microscope was urged, in order that the physician may differentiate the gonococcus from the other bacteria found about the genitals. The use of the methylene-blue or Gram stain was advocated, and the treatment of acute gonorrhea discussed under the following heads:

Internal. Balsams, urinary antiseptics, and acriflavine may be useful, but urotropin and hexylresorcinol are of no value. When used alone, this method is unfair to the patient.

Injections. The hand syringe may be used by the patient, but irrigations and instillations are office procedures. Astringents should be used only after the gonococcus has disappeared. The newer silver salts, argyrol and protargol, are the best. Mercurochrome and acriflavine are not reliable. It is often necessary to change from one to the other drug if the organism becomes "fast" to the one in use.

Irrigations. This is the most effective method of local therapy. The objection that it promotes complications is not valid if the physician is careful in his technic. Potassium permanganate, oxycyanid of mercury, silver nitrate, and silver salts (protein) are recommended in weak, nonirritating solutions. Permanganate is still the best all-round drug in this condition.

Instillations. For this purpose, organic salts of silver are best, and instillations are indicated in all posterior infections. The combination of irrigations, injections, and instillations is the most effective therapy against the gonococcus.

Vaccines. These are variable, and are used only when the individual strain causing the infection is unknown. The consensus of opinion is that vaccines are valueless in gonorrhea unless complications arise.

Intravenous medication. Sodium iodid may be administered intravenously, but is good only when complications arise, such as bursitis.

NONSPECIFIC PROTEIN THERAPY. Production of a system shock by this method is advantageous in treating complications. Aolan in doses of 5 to 6 c.c. weekly is advocated.

DIATHERMY. This is the newest method, and promises much, since the gonococcus has a low lethal temperature.

OPERATIVE PROCEDURES. These are indicated only where acute abscess formation is present. Sounds are contraindicated in acute gonorrhea, as is also massage of the prostate. Early local treatment is advised, no matter how acute is the inflammation. The patient should avoid excesses in foods, drink, and exercise; should totally abstain from alcohol and sexual excitement; and must lead a simple life in every way. Drinking of plenty of water is advised.

H. A. Shaw, M.D.: Dietetic Treatment of Hypertension.—It is maintained that pressure of the surrounding tissue upon the capillaries by *obesity* (the pathologic proof would be impossible, but clinical facts back this hypothesis), by *invisible edema* (this factor is still prominent in the results of treatment), and by *edema of the intracellular endothelium* is still a conceivable means by which circulation is impeded, and may be caused by salt, due to its chemical and osmotic influences. The chief evidence lies in the clinical results, which justify the treatment that is being directed at the pathological process. Hypertension may be considered as a compensatory element in an effort to force a filtrate of water and dissolved substances through a partially blocked and sometimes damaged glomerular filter, and this can be demonstrated by the fall in blood pressure and the relief in symptoms when proper diet is applied.

Attention is called to: the danger of thinking accurate salt restriction is an easy matter; the necessity of determining the sodium-chlorid ration required by the individual case; and the anticipation of a certain number of failures because of advanced organic changes. At regular intervals the sodium-chlorid content of blood plasma is determined. The blood pressure, 24-hour urine output, and daily sodium-chlorid content of urine are measured for the first two to three weeks, and then at greater intervals. One must guard against salt privation (weakness, lassitude, etc.). An average of 2 gms. of salt is allowed. The treatment, while not easy, is simple. The laboratory procedures are the only complicated features, and the principle underlying this treatment is to refrain from putting into the body anything the kidney will have difficulty in excreting rather than trying to force greater excretion.

J. A. Hawkins, M.D.: Treatment of Chronic Gonorrhea and its Complications.—Gonorrhea stands foremost among the diseases which are mistreated, due, however, to the routine rather than to the individual study of such cases. This is especially true of chronic infections. Chronic gonorrhea is usually considered as any infection which will not respond to six or eight weeks' treatment, and it is more often overtreated than undertreated. Shreds in the urine are found in healthy persons, and should not be the sole basis for the diagnosis of chronic gonorrhea. Cold sounds have their place in its treatment, but the use is individualized to suit the patient. The urethrascope examination is highly recommended, and is an important procedure which is too often overlooked. The strictures are treated as in the past, in a manner similar to those of vesiculitis. Routine prostatic massage is not to be used, in every case, as it may be the cause of complications.

Epididymitis may occur at any stage in the treatment of gonorrhea, and the patients should be warned of this factor. Prostatitis, unless abscess formation is present, requires rest rather than surgical procedures. Gonorrheal arthritis is best treated by nonspecific protein therapy (old typhoid vaccine), producing marked febrile reactions, because of the low lethal temperature of the organism. Cowperitis is treated as prostatitis, but drainage is more often necessary in this complication. Diet is not restricted, except for highly seasoned foods or sauces and carbonated waters. The author advises that every patient be given a copy of the rules to be observed in gonorrhea, as printed by the Department of Health of Pennsylvania.

L. G. BEINHAUER, M.D., Reporter.

DELAWARE—DECEMBER-JANUARY

The December meeting was held at the Chester Hospital, on the 17th, with Dr. A. V. B. Orr presiding. Fifty-nine members were present. Dr. David Rose, Chester, and Dr. Daniel J. Langton, Clifton Heights, were admitted to membership, and Dr. Jeannette H. Sherman, Ridley Park, was given permission to transfer her membership to Philadelphia. The secretary was instructed to purchase a copy of the *History of the Lycoming County Medical Society.*

The speaker of the evening was Dr. Willis F. Manges, Clinical Professor of Medicine at the Jefferson Medical College, and Director of the Roentgen Laboratory at the Jefferson Hospital. His subject was "Nontuberculous Lesions of the Chest," illustrated with numerous lantern slides made from x-ray plates of the chest. Dr. Manges was elected an honorary member of the society.

The following officers were elected for 1926: President, George B. Sickel; first vice-president, R. B. Loughead; second vice-president, F. R. Nothnagle; secretary-treasurer, W. E. Egbert; censors, H. Fronfield, K. Ulrich, H. Donahoo; librarian, F. Nymetz; reporter, G. L. Armitage.

Dr. E. E. Montgomery, of Philadelphia, was the January speaker. He gave a very entertaining description of his recent travels abroad, and his historical sketch of Chester, England, was especially interesting to the members residing in Chester, Pennsylvania.

At the conclusion of the meeting, the members of the Society were entertained at dinner in the Chester Club by the retiring president, Dr. A. V. B. Orr.

GEORGE L. ARMITAGE, M.D., Reporter.

ELK—JANUARY

At the January meeting officers for 1926 were elected as follows: President, Samuel T. McCabe, Johnsonburg; vice-president, Perry O. Hall, Ridgway; secretary, Samuel G. Logan, Ridgway; treasurer, M. M. Rankin, Ridgway; district censor, J. C. McAllister, Ridgway; delegate (State), S. G. Logan; censor, Stanley Barratt, Wilcox.

Dr. L. L. Hobbs, Jr., read a short paper on "Extrahepatic Jaundice." Dr. S. G. Logan, gave a short talk, illustrated with films, on "Visualization of the Gall Bladder." At the December meeting, it was decided not to pay the usual contribution to the Legislative Committee until it could be ascertained why the committee was entitled to it.

The next meeting will be held at Ridgway, February 11th, at the Elk County General Hospital; luncheon at one o'clock, followed by a business and scientific meeting.

S. G. LOGAN, M.D., Reporter.

ERIE—DECEMBER-JANUARY

There was an attendance of 71 at the annual banquet, held on December 1st, at the Lawrence Hotel. Dr. Herbert E. Smith, of Buffalo, spoke on "Trifacial Neuralgias."

At the meeting held at the Library on January 5th, Dr. Frank P. McCarthy was elected president for 1926; Dr. Ford Eastman, first vice-president; Dr. B. Swayne Putts, second-vice-president; Dr. J. W. Schilling, secretary; Dr. J. A. Stackhouse, assistant secretary; Dr. Frank B. Krimmel, treasurer; and Dr. Fred E. Ross, librarian.

Dr. J. Burkett Howe, the retiring president, read a paper on typhoid fever, which is important because of the occurrence of sporadic cases that may not be recognized. Defective drainage and a contaminated water or milk supply is the usual cause. In the 1910-11 epidemic in Erie, the water supply was contaminated by the high winds forcing sewage into the intake pipe which furnished water to the city. In December, 1910, there were thousands of cases of "winter cholera." Early in January, 1911, there was a real outbreak of typhoid, when 1,067 cases were reported, with 135 deaths.

Triple typhoid vaccine and improved sanitation in the camps have materially reduced the number of cases of this disease during and since the late war.

After describing the course of the disease and the symptoms, Dr. Howe said that failure to recognize the atypical cases leads to indifference in regard to the search for the cause of the attack and neglect in the proper disinfection of the evacuations. A discussion of the complications and differential diagnosis led to the statement: "It is important to remember that enteric fever presents the widest variations in symptoms. Errors in doubtful cases are to be avoided only by the routine employment of every resource of clinical medicine with due regard to the teachings of the clinical laboratory."

Anna M. Schrade, M.D., Reporter.

JEFFERSON—JANUARY

Following is a list of the officers for the year 1926: President, W. L. Snyder, Brookville; first vice-president, S. M. Beyer, Punxsutawney; second vice-president, H. W. Lyon, Punxsutawney; secretary-treasurer, W. A. Hill, Reynoldsville; censors, J. H. Murray, Punxsutawney, A. R. McNeil, Brookville, C. W. Johnstone, DuBois.

Working with the local Board of Education, the physicians of Reynoldsville have just completed the treatment of 850 children with diphtheria toxin-antitoxin.

W. A. Hill, M.D., Secretary.

LEBANON—JANUARY

The annual meeting was held on the 12th, when the following officers were elected for 1926: President, Frank Zimmerman; vice-presidents, A. S. Reiter and C. P. Krum; treasurer, J. DeWitt Kerr; secretary, W. Horace Means; censor, J. C. Bucher; and reporter, John D. Boger.

John D. Boger, M.D., Reporter.

LUZERNE—NOVEMBER-DECEMBER

The regular meeting was held November 18, at 8:30 p. m., with President Wolfe presiding.

Dr. H. V. Pike, of the Danville Hospital for Nervous and Mental Diseases, addressed the Society on "The Early Recognition and Treatment of Neurosyphilis," which is an individual and community problem. This disease is becoming increasingly frequent. There is no stated period after infection when the brain or spinal lesion may show itself. A brain lesion may appear within three months, or it may not be until fifty years after that there will be signs of locomotor ataxia.

Neurosyphilis usually manifests itself in one of two forms, with symptoms referable to the brain, or to spinal-cord lesions. In cerebral syphilis there is almost always a prodromal period in which the patient complains of headache, dizziness, loss of sleep, and failure of the general health. The headache may be very severe, is usually worse at night, is not relieved by the usual treatment, and the patient becomes dull and apathetic. The usual eye symptoms are present, and later mono- or hemiplegia and convulsions. Apoplexy occurring before 40 years is usually due to syphilis. As the disease progresses, changes in the mental condition of the patient are noticed, such as defects in memory and character, and errors of judgment in finance. The morale of the patient is bad, and he becomes slovenly and dirty, showing signs of emotional excitement and illusions.

Tabes dorsalis shows a different group of symptoms. Here, the brain may not be affected. The chief symptoms are found in the legs. This condition may not appear until years after the initial lesion. The symptoms first noticed may be the paresthesias; pain of neuralgic type; gastric crisis, nausea, and vomiting; ataxia; difficulty in going up and down stairs; abolishment of the reflexes on one side first, and gradually of both extremities; and the Argyll Robertson pupil.

Usually, cases of paresis, when they reach the State Hospital, are beyond any help. Dr. Pike called attention to the Clark Roberts tooth—the humpy sixth-year molar. As a sign of congenital syphilis, it can be considered positive in 99 cases out of 100. He emphasized the importance of making a neurolgic examination in all patients, irrespective of what the trouble may be. Successful treatment is 100% preventive. Arsphenamin, with mercury and iodids, is to be used, and for an indefinite period. The patient must submit himself for treatment at stated periods for the remainder of his life.

At the meeting held November 25, Dr. A. Dattner read a very interesting paper on "The More Recent Viewpoint in Infant Feeding."

The meeting on December 16 was called to order by President Wolfe. The following officers were elected for 1926: President, P. P. Mayock; vice-president, G. R. Drake; recording secretary, E. W. Bixby; financial secretary, J. J. McHugh; librarian and editor, Lewis H. Taylor; censor, N. L. Schappert; director, H. B. Wilcox; treasurer, Boyd Dodson; reporter, Lewis T. Buckman.

Dr. G. L. Gordon, assistant director, Department of Diseases of the Chest, Jefferson Medical College, read a very interesting paper on "The Effect of Exercise on Metabolism and the Circulation." From blood examinations made on runners in marathon races, it was noticed that there was a reduction in blood sugar. Those that showed a rate below the normal, showed the greatest amount of exhaustion. It would seem that giving of carbohydrate or milk chocolate before and

during the race is indicated; and it was found that those who were given this food during the race were not so exhausted as without it. The observations made on the heart did not show that there was any dilatation, which was confirmed by measurements taken immediately after the race.

W. J. DAVIS M.D., Reporter.

LYCOMING—DECEMBER-JANUARY

At the meeting on the 11th, at Williamsport, President John P. Harley presided.

Dr. A. F. Hardt, chairman of the committee on public relations, made a report recommending that the board of managers of the Williamsport Hospital be requested to take action in conjunction with the city authorities for the immediate erection of a hospital for the treatment of contagious diseases. The problem of providing suitable means for the care of contagious diseases in Williamsport has confronted the community the past year. The Williamsport Hospital cannot provide the necessary accommodations and care. The physicians, therefore, have united in a movement to combine the hospital and the community interests in jointly solving the problem, which will soon provide adequate care for contagious diseases.

Dr. Hugh K. Davis of Sonestown, was transferred from the Sullivan to the Lycoming County Medical Society.

Dr. A. C. Morgan, president of the Philadelphia County Medical Society, was present by invitation, and delivered a very instructive address on the subject, "Periodic Health Examinations, and How the Physician Should Conduct Them." Dr. Morgan said the individual slogan in preventive medicine, as applied to periodic health examinations, is "Keep well and not get well." The lessons learned in military service during the World War have taught the value of periodic physical examinations. The number of men apparently healthy, but found to be victims of some physical incapacity that resulted in rejection, or later discharge, was indeed startling. It awakens responsibility in individuals to have derangements corrected. Physicians learned the value of physical examinations and the preservation of written records. The family physician, above all others, should make the periodic examinations.

This movement offers a challenge to all physicians to be prepared to make physical examinations. Previous appointments should be made, preferably in the doctor's office. He should have fair remuneration for his time and experience. Printed blanks can be secured which give a good outline to follow. The patient should fill out his questionnaire before coming to the doctor's office. The first examination should be in detail. The most important features to be discussed should be weight, headache, dizziness, vision, hemorrhages, breathing, swellings, syncope, cramps, urinary tests, blood pressure, all of which should be done in one half hour. Coöperation of patient and doctor will work to mutual advantage, in present and future relations.

At 6:30 a fellowship dinner was tendered Dr. Morgan, in which twenty-two participated. Following the dinner, Dr. Morgan told how the Philadelphia Society secured a home of its own. The suggestions were practical, and should be adopted by the Lycoming County Society.

The annual meeting was held on January 8, at 1:30 p. m.

Dr. Julius Freidenwald, Professor of Gastro-Enterology of the University of Maryland, and Dr. Wilmer Krusen, Director of Public Health of Philadelphia, were present by invitation to address the Society.

Dr. Freidenwald's subject was "Some Remarks on Cancer of the Stomach, with Special Reference to Its Early Diagnosis." The early diagnosis may be difficult. Loss of weight is important and may be from 5 to 75 pounds. Cachexia is always present. Pain extends over the entire abdomen in 84% of cases. Anorexia is very common, as it appears in 89%, ranging from slight aversion to marked aversion to meat. There is vomiting in 89% of cases, and when persistent, is caused by stenosis. Bleeding occurs in 21%, with coffee-ground vomiting and blood in stools. Dysphagia occurs in patients over 40 years of age. A palpable mass is most valuable in diagnosis, but appears late in 30% of cases. Dilatation of stomach is of great diagnostic value. Ascites and edema are late manifestations. Change in gastric secretion occurs in 50%, and 5% may show hypersecretion of acid. Lactic acid is of diagnostic importance. There are no special laboratory tests. The blood-sugar color test is significant. X-ray findings are a great help in many cases. These will show early contraction of pylorus, an indurated mass, active contraction of stomach, or saclike formations with retention of contents 10 to 20 hours. Care is always to be observed in the interpretation of the radiographs. There are no pathognomonic signs. All symptoms must be studied, and a careful interpretation made of all tests. Atypical cases are hard to diagnose. Acute cases may be fatal in eight weeks. The disease may occur at ages 17 to 23. Surgery is the remedy, if not used too late. The greatest hope is that some better diagnostic method may be found.

The subject of Dr. Krusen's address was "The Medical Practitioner in Public Health." Dr. Krusen emphasized the importance of organization and coöperation. The educational value of the local medical society was enlarged upon, with a description of what the State Society and its publications can do. The importance of a good and active committee on public relations in the local or county medical society was stressed. In speaking of the standard for medical education, he asked the question, "Have we gone too far? What about the medical service to small or rural districts?" Physicians show negligence and indifference to legislation. They should take an active part in politics. Why hesitate? He referred to the influence of the Gorgas memorial and the value of establishing a school for tropical research.

Other matters discussed were, irregular practitioners; the medical registration act; compensation for medical services; the relation of the health officer and the physician; and points of contact in educating the public—the press, the pulpit, science clubs, men's and women's clubs, schools, parent-teacher associations, and moving pictures. The scientific problems are periodic health examinations, vaccination against smallpox, the Schick test, toxin-antitoxin for diphtheria, prevention of scarlet fever, the Dick test, the cancer problem, diabetes, and mental disease.

Drs. A. F. Hardt, Charles Cummings, and J. A. Campbell participated in the discussion of these addresses.

Undoubtedly the outstanding accomplishment of the Society during the year was the publication of its medical history.

The following officers were elected for the year: President, Geo. C. Davis, Milton; first vice-president, Geo. L. Schneider, Williamsport; second vice-president,

J. Elmer Schaefer, Cogan Station; secretary, W. S. Brenholtz, Williamsport; treasurer, John A. Campbell, Williamsport; reporter-librarian, Wesley F. Kunkle, Williamsport; censor, Edward Lyon, Williamsport; trustees, W. E. Delaney and R. F. Trainer.

Secretary Brenholtz presented his annual report, which closed as follows:

"Our activities as an organization are not confined to mere meetings once a month, we have branched out, we have committees devoted to the relation of the profession to the press, to public health, to the production of certified milk, to illegal practitioners, to the promotion of periodic health examinations, to the advancement of graduate education, to legislation, etc., so that we as a society have been steadily climbing upward into a strong and important position in our community; but we are at a critical stage in the life of our society, we dare not rest on our 'oars,' so to speak, but must pull harder than ever to make next year better than the past. To stand still means retrogression. However, with everybody working harmoniously together, we should continuously strive for greater accomplishments. To me, our greatest need is for a permanent home, something tangible and visible, binding us closer to one another, adding to our importance and prestige in the community, and being ever a place which we can call our own. It has been demonstrated that we can contribute as a group $50,000 to a public institution. Surely we can do likewise for a home of our own. Let us give serious thought to this matter, which we feel will produce a method of accomplishment in due time."

W. F. KUNKLE, M.D., Reporter.

NORTHAMPTON—JANUARY

In the address delivered by the retiring president, Dr. William L. Estes, attention was called: (1) to the value of periodic health examinations, which when thoroughly carried out, will mean the elimination of many days of illness and much suffering, the addition of many years to useful lives, the satisfaction to physicians in the rôle they will play in the prevention of disease, and an increase in the welfare of the nation. (2) Medical health publicity. (3) Public-health investigation. During the past year, a goiter committee was appointed to investigate the incidence of goiter in the county. A total number of 254 cases was reported by eleven members. Four reports from outlying schools show 72 cases of adolescent goiter. It is unfortunate that such a very small proportion of the county membership, about one-twelfth, manifested any interest in this intensely valuable survey. (4) The value of postgraduate study was stressed.

The following officers were elected for 1926: President, Clinton F. Stofflet, Pen Argyl; first vice-president, Frank J. Hahn, Bath; second vice-president, Harvey C. Updegrove, Easton; secretary-treasurer, Victor S. Messinger, Easton; corresponding secretary, Senn G. Beck, Nazareth; district censor, Edward S. Rosenberry, Stone Church; county censor, W. P. O. Thomason, Easton; reporter, A. B. Hamilton, Bethlehem.

VICTOR S. MESSINGER, M.D., Secretary.

YORK—JANUARY

The annual meeting and banquet of the York County Medical Society was held at York, January 6, 1926.

The business meeting comprised the election of officers for the coming year as follows: President, C. W. Fry; 1st vice-president, W. H. Treible; 2d vice-president, D. W. Stick; secretary, P. A. Noll; treasurer, R. E. Butz; reporter, W. N. Long; editor, W. F. Gemmill; librarian, A. C. Sorensen; censor, C. J. Hamme; and trustee, C. W. Eisenhower.

The speaker of the evening was Dr. John J. Dailey of McAdoo, whose subject was "The Country Doctor." The retiring president, Dr. B. W. Shirey, read a paper entitled "The Doctor of Tomorrow." The incoming president, Dr. C. W. Frey, read a paper entitled "The Doctor of the Past." Dr. J. Frank Small spoke of "The Doctor of Today." The toastmaster was Dr. Charles Rea. There was a special musical program under the direction of Dr. Wertz, of Hanover. About seventy doctors from the county were present.

W. NEWTON LONG, M.D., Reporter.

CORRESPONDENCE

A DEFENSELESS INACTMENT

Editor, ATLANTIC MEDICAL JOURNAL,
Harrisburg, Pa.

Dear Sir:

Beginning in January, 1926 there is to be enforced a law passed in the last session of the Legislature which proposes to compell all practitioners of the healing art in Pennsylvania to register in the Department of Public Instructions at Harrisburg. The fee is to be one dollar, plus, it is presumed, as is the custome in such records, a Notaey fee. This performane is to be repeated each year under a threat of fine and imprisonment.

What is the purpose of such a law? Is to get all prattitioners registeded under the law? Not at all. All are now registered, either as the present law, as well as this act requires, in the Department of Public Instructions at Harrisburg. Is it to get one uniform registratin at Harrisburg? Such a law would display a ray of intelligence; its sanity, however, is put in question by the rediculous requirement that the Doctors must repear the exact performanec each year. It is said the purpose is to create a fund to prosecute illegal practitioners. Such a crime is a crime against the people of the State. It is the duty of the State and not the doctors to punish the crime. Has it come to such a pass that the great Commonwealth of Pennsylvania is so beggerly that it cannot punish a crime against its people without laying this tribute upon its Doctors? It is not the dollar or the additional Notary fee to which any Doctor objects; it is the petty annual annoyance and the clear infringement on their constitutional rights to which they object.

Doctors who have practiced under and obedient to the laws of this State, many of them for a quarter of a century and more. are, now ordered to register, when they are already registered, and directed to repeat the performance each year, or failing, suffer a fine or imprisonment.

Why this tribute on the Doctor only? He is practicing under and in obedience to the law of the State, as is expressed in his license, just as surely as does the Judge hold Court under his commission or our esteemed friends, the Lawyers, practice at the Bar. It would be natural for eather of these two classes of Pennsylvania citizens, to object to be forced to registed each year at Harrisburg or suffer a fine or imprisonment. It would be the rediculous and senseless annoyance, and not the paltry fee, to which they would object. After hungry polititions holding down chairs at Harrisburg, get theirs out of this proposed fund of a dollar tribute from the Doctors, there will not be enough left of the fund

to prosecute a single illegal practitioner to final conviction.

The constitutionality of the law will fall at the first scrutiny of the court, for the following reasons:
It is viscious class legislation.
It holds no purpose for the public good.
It is barren of reason and justice and is opposed ti the purpose of the law.
It would operate to nullify, through its imposition of penalizing conditions, constitutional rights granted by the State, which rights are expressed in one's licens, without purpose, reason or justification.
It threatens and proposes penalties for failure to perform additional requirements and obligations not in and contemplated by the law of Pennsylvania under which one's license was granted.

The law may have defenders but it has no defense.

CHARLES J. CUMMINGS. M D

Williamsport, Pa

The following correspondence bearing upon the Registration Act will prove of further interest, as the opinion given by the Attorney General disposes of any further controversy.—EDITOR.

755 West Fourth Street,
Williamsport, Pennsylvania.
December 4th, 1925.

Attorney General,
Commonwealth of Pennsylvania,
Harrisburg, Pa.

Dear Sir:

My admiration for the recognized high standing and efficiency of your department, and the legal accumen of the Attorney General himself, has impelled me to address you this letter. You were quoted last night at a meeting of the Board of Directors of the Lycoming County Medical Society, as having officially passed upon and approved the constitutionality of that section of an act passed by the Last Legislature requiring all doctors of the State to register at Harrisburg in the Department of Public Instruction, and repeat the exact performance each year or suffer a fine or imprisonment, and that the Board of Medical Education and Licensure had your approval of said law. My high appreciation of your legal accumen would not allow me to accept the statement and protested that you had not so held as the matter had not yet been brought officially for your decision. May I ask as to whether or not this question has been so decided by you?

Thanking you, I beg to be
Very truly yours,
Signed, CHARLES J. CUMMINGS, M.D.
Member Board of Directors of the
Lycoming County Medical Society

December 7, 1925.

Dr. Charles J. Cummings,
755 West Fourth Street,
Williamsport, Pennsylvania.

DEAR DOCTOR CUMMINGS:

I have your letter of December 4th and, if I understand your question right, the answer would be that the Department of Justice has had no occasion to give an opinion on the Act to which you refer; namely, the Act of April 2, 1925, P. L. 119.

It would seem to me that this Act speaks for itself so clearly that there would be no occasion to ask for an opinion of the Attorney General. It requires annual registration with the Board of Medical Education and Licensure in the Department of Public Instruction on or before January 1, 1926, and annually thereafter before the first day of January.

The amended law also requires a registration fee of one dollar or any such other sum as may be fixed by the Department of Public Instruction.

A certificate is to be issued if the application for registration is found to be from a qualified physician.

The law also makes a person practicing without such registration subject to a fine of not less than $10 and not more than $100, and in case of nonpayment of the fine, to imprisonment for not more than ten days.

There is probably no doubt as to the constitutionality of this law, and if the Department of Justice were asked for an opinion on its constitutionality, we would be duty bound, in the absence of any clear and overwhelming reason to believe the law unconstitutional, to hold that it is constitutional and leave to the Courts the determination of the question to the contrary, if the Courts should find reason to so hold.

In other words, the Department of Justice must hold all the laws constitutional unless there is a Court decision to the contrary and unless there is overwhelming reason to believe that the law is unconstitutional.

This law and all others concerning the practice of medicine or allied healing arts is a matter which clearly falls within the police powers of the State under which the Legislature has the right and the duty to pass such laws as it may deem necessary to protect the health and life of citizens and residents.

Yours most sincerely,
Signed, G. W. WOODRUFF,
Attorney General.

FIXING PRICES FOR DRUGS

At a recent meeting of the Philadelphia Association of Retail Druggists, a former president of the National Association recommended a system of standard pricing for pharmaceuticals and drugs, which seemed to interest the meeting. A drug or chemical costing 50c per pound should be priced 40 per cent above cost, 70c; ½ lb., 50 per cent above cost, 38c; ¼ lb., 55 per cent above cost, 22c. The main thing is to make reasonable prices on pound or half-pound orders; the smaller quantities should show a larger margin. Pharmaceuticals listed with 15-per-cent or 25-per-cent discount should be priced at 40 per cent above net cost at the least. The predominating note of the meeting was the Price Standardization Bill. On this important subject there was a unanimity of opinion that while the druggist must continue to exert every influence on Congressmen and Senators to pass one of the bills to be presented at the next Congress, the public should be educated to the fact that the standardization of prices would really be of benefit to them, and when public representatives hear the demand of their constituents they will be more interested in passing protective measures. The Price Standardization Bill may be described as being in opposition to "cut prices." In other words, to prevent any article or preparation being sold at a less retail price than designated by the manufacturer.

Dr. Isaac A. Abt, in a report of an investigation of colds made for the Gorgas Memorial Institute, states that "the luxuries with which civilized man has surrounded himself are not unmixed blessings, and..... have diminished the resistance of human beings against colds."

THE

MEDICAL SOCIETY OF DELAWARE

SOME UROLOGIC CASE REPORTS*

BRICE S. VALLETT, M.D.
WILMINGTON, DEL.

In the following case reports special consideration is given to the existence of stricture of the ureter. This is one of the common lesions found in the abdominopelvic cavity, and may be classified under four heads: viz., (1) congenital, (2) traumatic, (3) functional, and (4) organic.

In the congenital class we have strictures occurring in cases of bifurcation of the ureter or double ureter, kidneys with a split pelvis, or a congenital stenosis of the ureteral meatus.

Traumatic strictures are found after operative procedures on the uterus and adnexa, especially after the operation for cancer of the uterus. One young married woman developed symptoms of stricture following an operation on the left tube and ovary.

Functional stricture is caused from pressure from without, and is common during pregnancy. One patient developed symptoms of bilateral pyelitis with obstruction as early as the third month.

Organic stricture is the most common, and is seen following local infections, such as tonsillitis, sinusitis, infected teeth, root abscesses, bronchial infections, and pyelitis. Today, many cases of pyelitis are being detected in newborn infants. It was formerly thought that most of these cases of pyelitis were colon-bacillus infections occurring principally in female infants, but recent reports show as many males affected as females.

Other organisms, such as staphylococci, streptococci, and influenza bacilli, are frequently found, the infection taking place through the blood. If these cases escape early detection, we have a factor at work predisposing towards subsequent stricture of the ureter. When stricture forms, drainage of the kidney pelvis is interfered with, and a chronic pyelitis develops. Many of the cases of stubborn pyelitis seen in children of five and six years or over, are a residue of an early undetected pyelitis.

A very interesting clinical picture is that of tonsillitis associated with general abdominal soreness and pain. Many of these cases are diagnosed intestinal influenza, and the distinction is difficult unless we are on the lookout for stricture. It is now known that there is a direct connection between tonsillitis and stricture of the ureter, and that when the tonsils become inflamed there is often an exacerbation of symptoms due to stricture of the ureter. The removal of diseased tonsils, diseased teeth, etc., often clears up an existing pyelitis, but if delayed may be of no benefit, as illustrated in the following case.

Six years ago I saw a young man who was having chills and fever, the latter often reaching 105°. The chills would be followed by a drenching sweat. Vomiting was prominent, and constipation was marked, it being necessary to give enemas to move the bowels. There was pain in the back, chiefly over the right kidney behind. The urine was loaded with pus and some blood and many colon bacilli. A urologist reported obstruction of the right ureter with "pus kidney." At operation, an acute pyelitis was found, but the kidney parenchyma was good. The kidney was removed.

One year after operation, pus was still appearing in the urine. The tonsils were removed in the hope that the urine would clear up, but it failed to do so. The patient went to Atlantic City to work at his occupation, but while there, suffered an attack of ureteral colic with obstruction.

He returned home, and a catheter was passed to the kidney pelvis, and drainage established by Dr. Hermann Miller. The patient improved rapidly, and some time later the appendix was removed. The pyuria still persisted despite injections of colon vaccine and six intravenous injections of mercurochrome. It has been more than two years since this young man has had any symptoms referable to his genito-urinary tract (except the pyuria.) This case was probably one of bilateral stricture of the ureter, and had treatment been directed towards this condition early in the case the patient would have been saved one good kidney, several useless operations, and much suffering.

Stricture of the ureter may be latent. Then again, the symptoms may simulate most all the other abdominopelvic disorders, but the outstanding symptoms are usually referred to the gastro-intestinal tract. Belching of gas, with or without nausea, is a prominent symptom. There may be vomiting and abdominal distention. Many patients blame something they have eaten.

*Read before the Medical Society of Delaware, Wilmington, October 14, 1925.

Constipation, at times when stricture is causing obstruction, is so marked that the strongest purgatives are without effect, and these cases have been operated upon for intestinal obstruction. Between attacks, there may be a "spastic" constipation.

Persistent periodic headaches, with back pain, are common. We see some women confirmed invalids from these headaches and backache. In one case, I observed a headache over a period of a month. Here, there was a stricture in the lower third of the ureter, and also a history of attacks of tonsillitis, with pain and distress in the right abdomen. The urine passed in attacks was highly colored, due to stasis and retention in the kidney pelvis. This stasis does not mean that we are dealing with a hydronephrosis, as in this case the kidney pelvis held but 6 c.c. The normal kidney pelvis empties itself in from three to seven minutes.

Pains in the hip, thigh, the calves, and even in the great toe are sometimes complained of. In two young married women with stricture, both complained of pains running into the thigh and leg. One complained of pain in the hip on walking. An x-ray showed a clean joint.

Stricture of the ureter is often dependent on some gynecologic condition.

This past July, a young married woman complained of severe pain over the right kidney behind, and soreness over the urinary bladder, with painful urination. A tentative diagnosis of obstruction to the right ureter was made, which was confirmed by cystoscopy. There was also an acute cystitis with much pus in the bladder urine, but urine from each kidney pelvis was normal.

The strictured area in the right ureter was in the region of the broad ligament, and would not admit a No. 6 catheter. The primary cause of the infection was puzzling until a gynecologist reported a low-grade infection of the parametric tissues on the right, and from an outside source we learned that there had been an abortion performed by a midwife about two months previous to the present trouble. The ureter had become involved in the subsequent infection and congestion, with partial closure of its lumen, which was restored when treatment was directed towards the gynecologic condition.

A child of five years, with a chronic pyelitis, was seen in several acute attacks which consisted of high temperature, general abdominal pains, and accurately localized pain over the right kidney. This little girl placed her hand directly over the right kidney behind, when asked where it hurt most. Cystoscopic examination showed a stricture of the right ureter, due to the impingement of calcified tubercular glands.

It should be mentioned that a normal urine may occur in more than 30% of cases of stricture. In others, a few hyaline casts, a few leukocytes and erythrocytes are found. The following case illustrates the danger of making but one urinalysis.

A middle-aged woman, the mother of six children, came complaining of weakness, shortness of breath, and epigastric uneasiness. The urine contained a few casts, but otherwise was negative. The heart sounds were good, and the blood pressure was within normal limits. She was given a nerve sedative and put on a diet. About four months later I saw her at home, where she had taken to bed with a severe pain running straight through from the right hypochondriac region to the back. There was nausea, but no vomiting. The localization of the pain suggested a gall-bladder condition, but a catheterized specimen of urine was loaded with pus. Attention was directed towards the right kidney, and a cystoscopic examination showed a stricture of the ureter, with a kidney pelvis above filled with pus. There was also a stone in the kidney substance.

According to Hunner of Johns Hopkins, about 20% of stricture cases have an associated pyelitis, infected hydronephrosis, or pyelonephritis. He also states that hydronephrosis is always associated with stricture, as are most cases of kidney stones (especially those high up). Consequently, every case operated upon for kidney stone should have subsequent treatment for ureteral stricture to guard against its future formation.

Many cases of obscure bleeding from the kidneys are being helped when treatment is directed towards a coexistent stricture. Such operations as suspension of the kidney, stripping of the kidney capsule for bleeding and nephralgia, resections of the kidney pelvis for hydronephrosis, pyelotomy for pyonephrosis, and nephrectomies for obscure bleeding from the kidney should first have stricture ruled out as a contributing, if not the primary, cause. This applies also to operations for gall stones, chronic appendicitis and tubo-ovarian disease. Many cases of postoperative pain of the uterus and adnexa are due to stricture.

Recent reports also show that certain cases of medical nephritis are improved, with a diminution of albumin and casts, following treatment for stricture.

Summary

1. Early attention given to the urine, teeth, tonsils, and sinuses should prevent the formation of many strictures of the ureter.

2. Every obscure backache, with or without headache, or any obscure abdominal condition should have a complete urologic examination. This examination is not complete without a pyelographic study.

3. The belching of gas and absolute constipation at the time of attacks are two cardinal symptoms of stricture with obstruction.

4. A normal urine is found in more than 30% of cases, and only a few hyaline casts, a few leukocytes and erythrocytes in 20% more, making a total of 50% of almost normal urines.

5. Every case of surgical removal of kidney stones should have subsequent treatment for stricture, as these two conditions usually coexist.

6. Cases of medical nephritis, so-called essential hematuria, and many gynecologic complaints, may be helped through treatment directed towards ureteral stricture.

(Note.—This paper was followed by the exhibition of many stereopticon slides illustrating the subjects treated.)

ABSTRACT OF DISCUSSION

VICTOR D. WASHBURN, M.D. (Wilmington, Del.): The patient who has obscure symptoms is entitled to the benefit of some form of coöperative or group medicine. Neither the general practitioner, the roentgenologist, nor the urologist can accomplish much alone. While all patients presenting symptoms of urinary frequency and abdominal pain should not be suspected of ureteral stricture, those whose symptoms do not clear up under ordinary methods of diet and medication should be given the benefit of study by physicians especially qualified to pass on lesions of the urinary tract.

Until the profession reduces to a minimum its percentage of diagnostic errors by careful and painstaking methods of diagnosis, whether they be of the clinical laboratory, the x-ray, or other departments of medicine, we shall not be in a position to criticize those of less training because they give treatments for disease conditions of whose real nature they are ignorant.

EDITORIAL

THE TRAINED NURSE AND THE PUBLIC

The nursing situation in our hospitals and private practice is fast approaching a point where it is becoming well nigh intolerable. The evolution of the modern trained nurse from an attendant with little or no training to the overtrained doctor's assistant (for that is what the modern nurse has become) has proved of inestimable service to the medical profession, but of doubtful utility to the sick. We are reminded of the story of the Irish woman, who when told by her physician to engage a trained nurse, exclaimed: "Indeed, doctor, I have been all my life wishing to have one of them, but am too sick to take care of one." Of course, this is somewhat exaggerated, but as a matter of fact, the modern nurse is too well trained to do the numerous small things required in the course of routine care. Such services as the making of beds, sponging the patient, caring for the evacuations, etc., are of too menial a nature to appeal to one trained to observe and interpret symptoms and manifestations of disease, administer potent drugs, assist in operations, and, in a way, act in the doctor's place between his visits.

Granting that in cases of severe illness such assistance is most essential and life-saving, in the vast majority of acute and chronic sickness, the duties of the nurse are those of a chambermaid and companion. From the standpoint of modern efficiency, it seems absurd to put a highly trained person to a task requiring ordinary skill and intelligence. No industrial establishment would have one of their technical experts do ordinary manual labor.

There is also an economic side to it. It is only fair and in keeping with modern practice, that skilled service should receive a higher rate of compensation. A woman who has devoted three years to work and study is entitled to better pay than, say, a shop girl. The present rate of six dollars a day with maintenance is higher than that received by stenographers and office girls, and compares rather favorably with the compensation of the better-paid school teachers. Considering the character of the service rendered by the nurse in the average case, the rate of eight to ten dollars a day, depending on the kind of accommodations she receives, is too high. However, the nurse's wage, like all other wages, is determined first, by the actual necessities of life; and, secondly, the supply and demand. In the case of the nursing profession, the supply has been greatly cut down by the unwillingness on the part of young women to take up nursing, and the withdrawal of a large number of trained nurses by various semimedical organizations. On the other hand, the demand has been multiplied through the increase in the number of hospitals throughout the country, particularly the smaller institutions that do not maintain training schools; and more general use of trained nurses in case of illness; and, also (and this is no mean factor) the employment of trained nurses by the well-to-do in trivial indispositions. These factors create a scarcity of nurses and an increase in the wage scale. Add to this the fact that the profession is highly organized, and we have conditions which prevail among bricklayers and plumbers.

All this is very well, but what about the average citizen, the man with a limited income, who becomes ill and requires the services of a nurse? In case of illness of moderate severity, nursing alone will amount to about one hundred dollars a week. Add to this the cost of drugs and medical attendance, and the financial burden is too heavy for the average shoulders. Hospitalization is the only way out, but even here the cost is at times prohibitive, as hospital charges have increased greatly because of the increased cost of overhead.

This has become a vital problem to the man with a modest income, a problem demanding solution. And there is a solution. All we need is to create an intermediate group of nurses, between the untrained so-called practical nurse and the overtrained graduate nurse. One, with a year or eighteen months of

training, which should be of a more practical nature, would render efficient service in most cases. It would be better if the move to create such a class of nurses came from the nursing profession. Unless relief is obtained and that soon, the nurses will find that women with little training and no ethical standards will enter their profession by the back door and secure legislative immunity. That is what happened in the medical profession, and this experience should serve as a warning to exclusive groups that make their requirements for membership too high.

It is all well and good to have high standards, but the string is apt to snap when stretched too taut.

OSLER'S FAMOUS CHALLENGE TO ANTI-VACCINATIONISTS

The late Dr. William Osler issued to antivaccinationists of England a challenge that was never accepted. He said: "Some months ago I was twitted by the editor of the *Journal of the Anti-Vaccination League* for a 'curious silence' on this subject. I would like to issue a Mount Carmel-like challenge to any ten unvaccinated priests of Baal. I will go into the next severe epidemic with ten selected vaccinated persons and ten selected unvaccinated persons—I should prefer to choose for the latter three members of parliament, three antivaccination doctors (if they could be found) and four antivaccination propagandists. And I make this promise—neither to jeer nor gibe when they catch the disease, but to look after them as brothers, and for four or five who are certain to die, I will try to arrange funerals with all the pomp and ceremony of an antivaccination demonstration."—*J. A. M. A.*

Medical News

Deaths

MR. J. K. LINDSEY, veteran drug merchant, of Mercer; aged 82; January 9.

MRS. A. H. FETTEROLF, mother of Dr. George Fetterolf, of Philadelphia; December 26.

MRS. MAMIE HARDESTY ROBERTS, wife of Dr. J. Pierce Roberts, of Shenandoah; December 22.

MRS. MARY COXE GERHARD, wife of Dr. Arthur H. Gerhard, of Philadelphia; December 28, following an operation.

EDWIN B. MILLER, M.D., of Altoona; Jefferson Medical College, 1906; aged 42; November 15.

ERWIN T. JOHNSON, M.D., of Hilltown; Jefferson Medical College, 1883; aged 69; January 17.

JOHN BAYLEY JONES, M.D., of Philadelphia; Jefferson Medical College, 1903; aged 49; January 14.

M. L. CASSELBERRY, M.D., of Philadelphia; Hahnemann Medical College, 1853; aged 95; January 3.

GEORGE W. GALLAGHER, M.D., of Connellsville; University of Pennsylvania School of Medicine, 1889; aged 64; December 16.

HENRY P. ASHE, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1901; aged 55; December 30, of apoplexy.

WINFIELD M. THOME, M.D., of Mt. Joy; Baltimore (Md.) Medical College, 1906; aged 45; December 26, of acute indigestion.

ROBERT C. CLARKE, M.D., of Pittsburgh; University of Wooster Medical Department, Cleveland, Ohio, 1881; aged 71; January 6, of paralysis.

JAMES WALKER, M.D., of Mendenhall; Jefferson Medical College, 1892; aged 59; January 7, following an operation on December 3.

EDWARD GARRETT RHOADS, M.D., of Philadelphia; University of Pennsylvania, 1885; aged 63; January 24, at Fairhope, Ala.

PETER F. SMITH, M.D., of Uniontown; University of Michigan Medical School, Ann Arbor, 1887; on the staff of the Uniontown Hospital; aged 68; December 19.

J. SELDON SANDS, M.D., of Bristol; Jefferson Medical College, 1882; brother of Dr. Laura Chapin, of Philadelphia; aged 66; November 27.

JOHN A. PATTERSON, M.D., of Washington; Medical College of Ohio, Cincinnati, 1875; formerly on the staff of the Washington Hospital; aged 82; December 7.

WILLIAM S. LONG, M.D., of Reading; University of Pennsylvania School of Medicine, 1913; orthopedic surgeon on the staff of the Reading Hospital; aged 39; January 17.

THOMAS WALTER KAY, M.D., of McKeesport; University of Pittsburgh School of Medicine, 1896; on the staff of the McKeesport Hospital; aged 54; December 8, of heart disease.

JOHN M. LEE, M.D., of Rochester, N. Y.; nationally known as a surgeon and for his pioneer work in radium therapeutics; founder and proprietor of Lee's private hospital; January 11.

JOHN W. MERRYMAN, M.D., of Kennett Square; Jefferson Medical College, 1899; served in the M. C., U. S. Army, during the World War; aged 49; October 7, at St. Augustine, Fla., of acute dilatation of the heart.

ALBERT C. EYCLESHYMER, M.D., dean of the University of Illinois Medical School; internationally known as an anatomist and the author of several books; December 30, accidentally shot through the head while cleaning a revolver.

R. K. CLEBORNE, M.D., of Philadelphia; Jefferson Medical College, 1895; Professor of Physiology and Hygiene, School of Pharmacy, Temple University, and Lecturer on Dietetics, School of Medicine, Temple University; aged 52; December 30, of myocarditis.

DAME LOUISA BRANDRETH ALDRICH-BLAKE, pioneer among women surgeons, and dean of women surgeons in England; dean of the London School of Medicine for Women; senior surgeon at a woman's hospital, and consulting surgeon at the Royal Free Hospital; fellow of the Royal Society of Medicine; December 30.

WILLIAM M. MENAH, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1890; formerly instructor and chief clinical assistant in otology at the Medico-Chirurgical College of Philadelphia, and lecturer on otology at his alma mater; for twenty years on the staff of the Medico-Chirurgical Hospital; aged 57; December 26, of nephritis.

S. LEWIS ZIEGLER, M.D., Philadelphia; University of Pennsylvania School of Medicine, 1885; member of the Historical Society of Pennsylvania, the American College of Surgeons, the American Academy of Ophthalmology and Oto-Laryngology, the American Ophthalmological Society, the Pan-American Medical Congress, 1893, the International Ophthalmological Congress, Edinburgh, 1894, Utrecht, 1899, Lucerne, 1904, Naples, 1909, the International Medical Congress, Paris,

1900, London, 1913; formerly director of public health and charities; member of the permanent committee on comprehensive plans of Philadelphia; at one time on the staffs of the Germantown, the Episcopal, and St. Joseph's Hospitals; attending surgeon and executive medical officer of the Wills Eye Hospital; aged 64; January 4, of pneumonia.

Births

To DR. AND MRS. WALTER E. EGBERT, of Chester, a son.

To DR. AND MRS. L. W. FREDERICK, of Reading, a son, December 4.

To DR. AND MRS. LLOYD B. GREENE, of Philadelphia, a son, George Megargee, January 12.

To DR. AND MRS. J. JAMES CANCELMO, of Philadelphia, a son, Edmund Piper, December 29.

To DR. AND MRS. CLARENCE D. SMITH, of Philadelphia, a daughter, Barbara Jean, December 5.

To MR. AND MRS. EUGENE L. HOWELL, a daughter, December 16. Mrs. Howell is the daughter of Dr. and Mrs. Robert L. Pitfield, of Philadelphia.

Engagements

DR. AND MRS. HENRY F. PAGE, of Philadelphia, have announced the engagement of their daughter, Evelyn, to Rowland Evans Roberts.

ANNOUNCEMENT HAS BEEN MADE of the engagement of Miss Antoinette Geyelin, to Mr. John T. Carpenter, son of Dr. and Mrs. John T. Carpenter, of Radnor.

THE ENGAGEMENT HAS BEEN ANNOUNCED of Miss Ada C. Pruden, Harrisburg, and Mr. J. Clarence Funk, son of Dr. and Mrs. David S. Funk, Harrisburg.

DR. AND MRS. FREDERICK E. STOCKWELL, of Philadelphia, have announced the engagement of their daughter, Catharine MacCracken, to Mr. Walter H. Linder, of New York.

DR. AND MRS. THOMAS AIKEN, of Berwyn, have announced the engagement of Mrs. Aiken's daughter, Miss Marie Louise Adams, and Mr. Paul Vansant Neall, of Overbrook.

DR. AND MRS. HENRY A. STRECKER, of Philadelphia, have announced the engagement of their daughter, Miss Anne Marie Strecker, and Mr. Louis M. Backe, Jr., of Germantown.

THE ENGAGEMENT IS ANNOUNCED of Miss Elizabeth Young, daughter of the late Dr. and Mrs. James K. Young, of Philadelphia, and Mr. Marshall H. Frisby, son of Mr. and Mrs. Frank B. Frisby, of New Haven, Conn.

Marriages

MISS MARION PIERCE, to Mr. Richard Upjohn Foltz, son of Dr. and Mrs. J. Clinton Foltz, formerly of Philadelphia.

MISS BARBARA SHOEMAKER, daughter of Dr. and Mrs. Wm. T. Shoemaker, of Philadelphia, to Mr. Albert W. Zimmerman, January 29.

MRS. MAUD WIGGINS SUPPLEE, daughter of Dr. and Mrs. Howard S. Anders, of Philadelphia, to Mr. Gerald J. O'Reilly, of Miami, Fla.

Miscellaneous

DR. JAMES D. LEWIS is Director of Public Health of Scranton for 1926.

DR. F. B. WITMER has been elected health officer of Lebanon for 1926.

DR. A. S. REITER was elected burgess of the borough of Myerstown for 1926.

DR. A. B. CLOAK has been seriously ill with typhoid fever at his home in Freedom.

DR. L. B. MILLER, of New Brighton, was admitted to the hospital for treatment, December 5.

DR. CAREY J. VAUX has been reappointed Director of Public Health of the city of Pittsburgh.

AT THE ANNUAL ELECTION of the Medical Club of Philadelphia, Dr. Wilmer Krusen was elected president.

DR. J. F. RAINE, of Sykesville, has retired from active practice. His work has been taken over by Dr. H. G. Shaffer, formerly of Grampian.

DR. H. F. MCDOWELL, of Franklin, has recently been elected second vice-president of the Community Loan and Savings Bank of Franklin.

GRANDVIEW SANITARIUM, Oil City, has added to its scope by opening an infirmary for advanced cases of tuberculosis, with a capacity of twenty-five beds.

THE ANNUAL CONGRESS on Medical Education, Medical Licensure, and Hospitals will be held at the Congress Hotel, Chicago, February 15 to 18.

DR. ISAAC A. ABT, of Chicago, Ill., has been appointed attending physician in Diseases of Children at St. Luke's Hospital, of that city.

DR. CHARLES W. YOUNGMAN, of Williamsport, was recently found unconscious in his office and has been in a serious condition, but is now reported to be improving.

ON JANUARY 12, the Federal Hospital Board, Washington, D. C., voted to put Tucson, Arizona, on the priority list for a new veterans' hospital for tuberculosis patients.

DURING THE MONTH OF JANUARY it was believed that every child in the mining village of Buck Mountain was suffering from chickenpox, which visited every home in epidemic form.

DR. W. W. KEEN, the Field Marshal of American Surgeons, celebrated his 89th birthday, January 19, 1926. Dr. Keen is interested and active in all affairs of the day.

THE NORTHERN LIBERTIES HOSPITAL, Philadelphia, is conducting a campaign for $50,000. More than 20,000 persons, it is reported, received treatment at the dispensary of this hospital during the first year of its existence.

HOSPITAL COALLESS.—Bellevue Hospital, New York City, with its subsidiary institutions, the largest hospital in the country, was reported on January 20, to be without coal, the building heatless, and 1,377 patients in the house.

DR. CHARLES H. KEENE has resigned as director of health education in the Pennsylvania Department of Public Instruction, to accept an appointment as professor of hygiene and director of physical education in the University of Buffalo.

DR. MAURICE OSTHEIMER, assistant professor of diseases of children, University of Pennsylvania School of Medicine, has resigned and also retired from the practice of medicine. Dr. Ostheimer was a teacher of pediatrics at the University of Pennsylvania for twenty-five years.

THE FEDERAL GOVERNMENT'S CASE against Dr. William F. Hopkin, of Philadelphia, who was arrested on December 12 on a charge of illegally dispensing narcotics to his clientele, has been formally dropped, inasmuch as it was declared that "the accusations against the doctor were entirely technical."

THE FOLLOWING are the newly elected officers of the Philadelphia County Medical Society for 1926: President, Moses Behrend; vice-president, Frederick S. Baldi; secretary, Henry G. Munson, Room 1208, Central Medical Building; and treasurer, Edward A. Shumway.

THE BOARD OF EDUCATION of Philadelphia has voted to coöperate with the Department of Public Health of

that city in its efforts to stamp out diphtheria by immunizing all children of pre-school and school age with the consent of the parents. The committee is composed of Dr. Solomon Solis-Cohen, chairman, and Drs. Edward Martin and William H. Zeigler.

THE STAFF OF THE MERCY HOSPITAL, of Johnstown, recently elected the following officers for 1926: President, Dr. Leo W. Hornick; vice-president, Dr. C. M. Harris; secretary, Dr. Bernard McCloskey. During the past year, a $25,000 addition to the hospital was erected to provide modern facilities, and recently a new department of pediatrics was organized.

THE DENTAL CLINIC CLUB OF PHILADELPHIA, during the week of February 15th, will hold comprehensive clinics covering radiography, general and local anesthesia and exondontia, crown and bridge work, operative dentistry, orthodontia, full and partial denture construction, periodontia, porcelain work, and pulp protection and root-canal work.

DURING THE RECENT ANNUAL MEETING of the Shenandoah Medical Society, the following officers were elected for the ensuing year: Harry Hobbs, president; James Monahan, vice-president; and William J. Scanlan, secretary-treasurer. A motion was passed during the meeting to contribute the surplus in the treasury of the society to the Welfare League in behalf of the strike sufferers.

DR. ALFRED J. ASGIS will be in charge of the courses to be given at the stomatological school recently chartered by the University of the State of New York, and functioning under the auspices of the American Stomatological Association. Due to these added responsibilities, Dr. Asgis tendered his resignation from the Department of Gastro-enterology of the New York Polyclinic Medical School and Hospital.

DR. F. W. AXHAM, of Great Britain, who, fifteen years ago, was punished for assisting Sir Herbert Barker, an osteopath, has been given back his diploma by the Royal College of Physicians at Edinburgh. They gave as their reason that Dr. Axham, who is 86, had not continued the practice for which he had been punished, and would refrain from doing so in the future. The Royal College of Surgeons, however, which also took away Dr. Axham's diploma, has refused to restore it.

THE UNITED STATES PUBLIC HEALTH SERVICE has recently announced the release of strip film views illustrating lesions of syphilis and of skin diseases simulating syphilis. The views are taken from both acquired and congenital cases, depicting not only the usual genital and extragenital lesions, but also a number of rare and unusual views. The plan for using this new facility contemplates its distribution through the various boards of health to medical societies, medical schools, and hospitals. These films are not for sale, but will be released to state boards of health for extended periods.

THE CHILDREN'S BUREAU OF THE U. S. DEPARTMENT OF LABOR is about to issue a set of six charts on posture standards for boys and girls, intended for the use of physicians, nurses, physical-education teachers, and clinics. Three types of figures are shown for both boys and girls—the thin, the intermediate, and the stocky. Each chart shows four silhouette figures illustrating excellent, good, poor, and bad posture for one type of girl or boy, and is approximately 24x34 inches. A limited number are available for free distribution; others may be secured from the Government Printing Office at 50 cents for the set of six, or 25 cents for the set of three charts showing standards for girls, or the set of three charts showing standards for boys.

RIDING WITH MORE THAN THREE in the driver's seat of automobiles is dangerous in Pennsylvania, according to an order issued at the State Highway Department to the Highway Patrol to break up that form of transportation. Information against persons violating that rule will be made, and the patrolmen have also been instructed that riding on hoods, running boards, and other places not meant for seats must also stop. The Highway Department has warned people obtaining the 1926 drivers' cards not to destroy the 1925 cards, which are legal until March 1. The new cards are not in order until that time.

THE SECRETARY OF HEALTH, Dr. Charles H. Miner, announced, January 8, that the new state hospital for crippled children will be constructed as soon as possible, near Elizabethtown. The last Legislature appropriated $250,000 for the hospital, which will be in the nature of a convalescent hospital for juvenile patients from various operative hospitals, and will care for from 600 to 800 children. Especial attention will be given to rehabilitation. There are, it is said, about 25,000 crippled children in the State who need free hospital service.

THE UNITED STATES CIVIL SERVICE COMMISSION announces an open competitive examination for medical officers to fill vacancies in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Veterans' Bureau, and other branches. Applications will be received until June 30. For the Departmental Service at Washington, the entrance salaries range from $1,860 a year for the junior grade to $5,200 a year for the senior grade. Juniors may be promoted to $2,400 and seniors may be promoted to $6,000 after the six months' period of probation. For field branches, the salaries are approximately the same, except that deductions are made where quarters and subsistence are furnished, and where part-time duty only is required. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse of any city.

KAISER WILHELM INSTITUTE, Germany's "Rockefeller Foundation" for scientific research, has decided to enlarge its membership to include scientists of other countries who wish to use its laboratories.

The institute was started in 1911 for the purpose of physical research, but since then has extended its interests to research in biochemistry and electricity. In the last year, among many other theoretical investigations, it has been conducting research into the possibilities of extracting gold from sea water, and has succeeded in getting three to four milligrams to the ton. This process it is hoped shortly to commercialize.

THE 1926 FOREIGN CLINIC ASSEMBLIES given under the direction of the Inter-State Post Graduate Assembly of North America, will cover a territory including the chief clinic cities of Italy, Switzerland, Germany, Austria, Czecho-Slovakia, Holland, and Belgium. The members of the party will sail from New York on April 28, on the "Araguaya" of the Royal Mail Steam Packet Line, landing at Cherbourg. Physicians may return home on three separate sailings: (1) at the end of the visit to Italy and Switzerland by way of Cherbourg; (2) at the end of the visit to Holland from Rotterdam; and (3) at the end of the assembly in Brussels from Antwerp.

The assemblies are open to members of the profession who are in good standing in their State or Provincial Society with no restriction as to territory. This invitation is understood to be extended to the entire medical profession of North America. The members of the party will be limited to 500, which includes members of the physicians' families.

It is necessary, in order to hold space for the assemblies, to send to the office of the Managing-Director, W. B. Peck, Freeport, Illinois, the sum of $65.00 per person. If for any reason the applicant for space decides that he can not attend the assemblies, the money will be refunded immediately, if this demand is made as early as six weeks before sailing time.

Besides the extensive sightseeing and travel features, arrangements are being made for a ladies' entertainment committee in each of the clinic cities. The com-

mittees will be composed of the wives of the clinicians and prominent citizens.

A second section of the assemblies for a limited number will be conducted during the summer months for those who are unable to take advantage of the April sailing. The members of the party will leave New York on the S.S. "Pittsburgh" on June 19; return sailing, August 13 from Antwerp on the S.S. "Zeeland."

ROTARIANS AND CRIPPLED CHILDREN.—The Hazleton Rotary Club, which has spent more than $3,000 for operations on crippled children, has launched a campaign to learn the names and addresses of youngsters who had been missed in the previous canvass. An orthopedic specialist will be brought there to help these little sufferers.

MEMORIAL CLINIC FOR UNIVERSITY OF PENNSYLVANIA.—Recent announcement was made of a gift of $250,000 from Martin Maloney, capitalist and philanthropist, to be used as the nucleus of a fund for the erection within three years of a new $750,000 building for the medical division of the hospital of the University of Pennsylvania. The new building, which will be called the Martin Maloney Memorial Clinic, will house dispensaries for medical and allied groups, a hydrotherapy and physiotherapy department, special wards of small size for cases requiring particular study and care, the Pepper Laboratory of Clinical Medicine, the John H. Musser Department of Research Medicine, and the Duhring Department of Cutaneous Medicine.

THE TENTH ANNUAL CONGRESS on Internal Medicine will be held at Detroit and Ann Arbor, Mich., February 22-27, 1926.

The Congress is devoted to amphitheater, bedside, and clinical laboratory demonstrations, as well as to symposiums dealing with modern phases of internal medicine. Distinguished guests from abroad, Canada, and the leading clinics of the United States will occupy prominent places on the program. Four days will be devoted to the work at Detroit, and on one day the society will be the guest of the University of Michigan at the newly opened eleven-hundred-bed University Hospital.

All physicians, who are interested in internal medicine and who are members in good standing of their local and national societies are cordially invited to attend the Congress.

Hotel headquarters will be at the Book-Cadillac in Detroit. Information regarding reduced railroad rates, program, hotel accommodations, etc., may be secured from the Secretary-General.—FRANK SMITHIES, M.D., 920 N. Michigan Avenue, Chicago, Ill.

THE PENNSYLVANIA TUBERCULOSIS SOCIETY.—The Pennsylvania Tuberculosis Society held its thirty-fourth annual conference in Philadelphia, January 20-21. The tuberculosis-prevention forces of Pennsylvania, both volunteer and official agencies, are coöperating very efficiently; but any relaxation of the energy and any lessening of the active forces arrayed against the disease would be disastrous. Every effort must be made to strengthen the lines of attack and to increase the vigor and effectiveness of the fight against this disease.

According to the Census Bureau, the tuberculosis death rate in Pennsylvania was reduced 28 per cent in the period 1919-1923, inclusive. In 1924 it was less.

One of the important items of business conducted was a unanimous vote for an appropriation from the funds of the State Society to be used for research work in tuberculosis, and to be utilized at the discretion of the National Tuberculosis Association.

The following officers were elected for 1926: President, Dr. Rolla S. Knapp, Easton; first vice-president, Dr. James M. Anders, Philadelphia; second vice-president, Dr. John H. Scheide, Titusville; secretary, Dr. Ward Brinton, Philadelphia; treasurer, Dr. J. William Hardt, Philadelphia; and solicitor, Thomas Raeburn White, Esq., Philadelphia.

ANNOUNCEMENT OF FELLOWSHIPS IN MEDICINE BY THE NATIONAL RESEARCH COUNCIL.—The National Research Council has established fellowships for the purpose of increasing the supply in this country and in Canada of medical teachers who are both competent instructors and original investigators. The funds for the fellowships are supplied by a joint contribution from the General Education Board and the Rockefeller Foundation of a maximum sum of $100,000 a year for a period of five years (1922-1927). The administration of the fellowships is in charge of a medical fellowship Board, comprising the chairman of the division of medical sciences of the National Research Council, and other persons who have gained distinction in medical teaching and research. These fellowships are open to citizens of both sexes of the United States and Canada. Applicants for fellowships must have an M.D. or a Ph.D. degree, or qualifications equivalent to those indicated by the possession of one of these degrees. The fellowships are intended for the benefit of those who are in the early stages of their preparation for life work as teachers in medical schools, and not for those already professionally established. All branches of medicine, both preventive and curative, are open to those who seek these fellowships. For the present, however, those who express an intention of following a career in one of the preclinical sciences will be particularly favored. It is required that each fellow under the direction and observation of the man or men with whom he is doing his research work, gain some experience in teaching. The grant of fellows shall be determined by the Medical Fellowship Board of the National Research Council in each individual case. The normal minimum amount is $1,800 for unmarried and $2,300 for married fellows. The actual allowance will depend upon the past record of the applicant in scientific work, the family obligations which he carries, and the cost of living in the location chosen for study. Fellowships are allotted at stated meetings of the Board held in April and September, and applications, to receive consideration at these meetings, must be filed on or before March 1 and August 1, respectively. Fellowships may begin at any time, and are granted for twelve months, with an allowance of six weeks for vacation. At the end of the year, the Medical Fellowship Board may renew the fellowship on request and may increase the pecuniary award. These fellowships shall not be granted to any institution or university; but the place where the fellows may choose to work and the man under whom he may choose to work are to be approved by the Medical Fellowship Board. Address communications to the Chairman of the Medical Fellowship Board, National Research Council, Washington, D. C.

LAY HEALTH OFFICERS

A RESOLUTION BY THE CHICAGO MEDICAL SOCIETY

WHEREAS, The American Public Health Association at its Annual Meeting in St. Louis, in October, 1925, listened to an address by one of its members favoring a new doctor in each community where a health officer is needed, to be known as a Doctor of Public Health; and

WHEREAS, Several institutions of learning have introduced courses in public health whereby a layman, as well as a physician, may be instructed and in a comparatively short time qualify as a Doctor of Public Health (D.P.H.), and be allowed to advise, qualify, and practice preventive medicine; and

WHEREAS, In all probability a bill to license a so-called D.P.H. will be introduced into the next session of the State Legislature of Illinois; and

WHEREAS, The Chicago Medical Society believes that all health officials should first be physicians (M.D.), who have the proper knowledge of the sciences concerned in public health, and that such knowledge cannot be gained by any layman in two or three years; and

WHEREAS, Such an arrangement of a layman being a health official, places a double expense on the com-

munity, since it is necessary for the community then to procure the service of an M.D. in addition to a layman; and

WHEREAS, The State confers on an M.D. the right to practice medicine and surgery in all its branches, while the special licensing of a D.P.H. would be special legislation tending to take from an M.D. that right; therefore be it

Resolved, That the Chicago Medical Society believes all positions of trust pertaining to public health in any community should be held by physicians (M.D.), and not by laymen holding D.P.H. licenses; and be it further

Resolved, That the Chicago Medical Society views with displeasure any move on the part of the American Public Health Association which may express a desire to replace physicians as health officials by laymen with D.P.H. licenses; and be it further

Resolved, That a copy of this resolution be sent to the American Public Health Association, to all those institutions of learning where courses in Public Health are given with a view to conferring a D.P.H. degree, and to every state medical society with a request that their component county societies be made acquainted with the proposed activities of a Public Health Association whose president is a layman.

BOOKS RECEIVED

ANNUAL REPORT of the Surgeon General of the Public Health Service of the United States for the fiscal year 1925. Washington: Government Printing Office, 1925.

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE. By Percy Hall, M.R.C.S. (Eng.), L.R.C.P. (Lond.). With introductions by Sir Henry Gauvain and Leonard E. Hill, of London. St. Louis: C. V. Mosby Company, 1924. Price $3.75.

A MEDICAL FORMULARY. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Twelfth Edition, Revised. Philadelphia and New York: Lea & Febiger, 1925. Price $2.50.

LECTURES ON HEREDITY. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis), 1923-24. 12mo, 250 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $2.50 net.

LECTURES ON NUTRITION. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis), 1924-25. 12mo, 243 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $2.50 net.

CHININUM. Presented by: Bureau tot Bevordering van het Kininegebruik (Bureau for Increasing the Use of Quinin) 48, De Wittenkade, Amsterdam.

ABDOMINAL OPERATIONS. By Sir Berkeley Moynihan, Leeds, England. Fourth Edition, Revised. Volumes I and II, totaling 1217 pages, with 470 illustrations, 10 in colors. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, $20.00 net.

UNITED STATES NAVAL MEDICAL BULLETIN. Published for the information of the Medical Department of the Navy. Vol. XXIV, No. 1, January, 1926. Issued quarterly by the Bureau of Medicine and Surgery, Washington, D. C. Washington: Government Printing Office, 1925.

MEMORANDA OF TOXICOLOGY. Partly based on Tanner's Memoranda of Poisons. By Max Trumper, B.S., A.M., Formerly Lecturer on Toxicology, Jefferson Medical College, Philadelphia. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. Price $1.50.

MODERN MEDICINE. Its Theory and Practice. In original contributions by American and foreign authors. Edited by Sir William Osler, Bart, M.D., F.R.S., Late Regius Professor of Medicine in Oxford University, England. Third edition, thoroughly revised. Re-edited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Volume II, illustrated. Philadelphia and New York: Lea & Febiger, 1925. Price $9.00.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

CHEMICAL PATHOLOGY. By H. Gideon Wells, Ph.D., M.D., Professor of Pathology in the University of Chicago, and in the Rush Medical College, Chicago. Fifth Edition, Revised and Reset. Octavo of 790 pages. Philadelphia and London: W. B. Saunders Co., 1925. Cloth, $8.50.

When an author asserts in the preface to a new edition that "few pages of the previous edition remain unchanged and numerous sections are entirely new," he gives his reviewers plenty of room for thought. Is it a new book or an old one? Into how much detail is it necessary to go?

It is, of course, impossible to give a fifth edition the minute consideration bestowed upon a first. By the time the fifth is ready, the work is known; all know something about it, and many have learned to enjoy and profit by it. The reason for its existence need no longer be explained, its purpose is understood, and it has justified itself. So it is with the present volume.

We need no introduction to the "Chemical Pathology," and we welcome its fifth edition as a friend, old, tried, reliable, and bursting with the newest information with which to interest the reader.

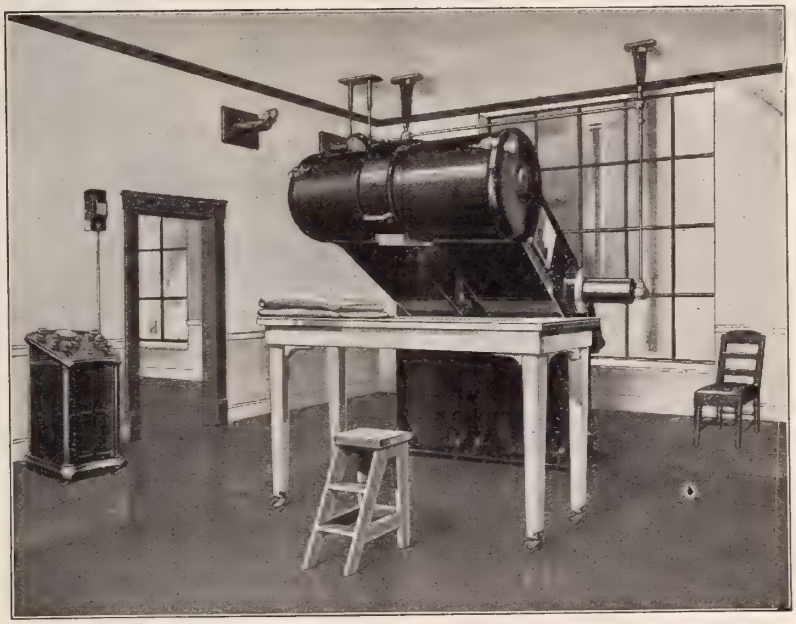
SURGERY A HUNDRED YEARS AGO. Extracts from the Diary of Dr. C. B. Tilanus, afterwards Professor of Surgery at the University of Amsterdam. Edited by Professor H. T. Deelman, Professor of Pathology at the University of Groningen, Holland. Translated from the Dutch by Joseph Bles. Published by Geoffrey Bles, Suffolk St., Pall Mall, London. Made and printed in Great Britain by Butler and Tanner, Ltd., Frome and London, November, 1925.

This little book has to do, as its title indicates, with the observations made in 1818 by three young men, who having just previously taken their degrees at the University of Utrecht, decided to travel together through Belgium, France, and Germany, and to visit the various clinics and hospitals. They were C. B. Tilanus, J. C. Broers, and P. J. I. de Fremery, all of whom ultimately became professors at Amsterdam, Leyden, and Utrecht respectively. It so happened that C. B. Tilanus made a record of his observations in his diary which later became the property of his son, J. L. Tilanus, who placed it in the hands of Professor H. T. Deelman, to whom we are indebted for its publication.

This is a charming bit of reading matter. It is difficult to review it without giving the book away. Something must be left for the reader. It is interesting from cover to cover and brings to light many remarkable features of surgery in the early part of the nineteenth century. First we note the great independence of the surgeons that held teaching clinics. They were forever collecting specimens for their private collections, the rivalry seeming to center upon speci-

(Continued on page xvi.)

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A-14

BOOK REVIEWS

(Continued from page 362.)

mens. A man's standing was indicated by the size and character of his museum rather than by his skill in saving life. Venesection, or phlebotomy as it was then called, was utilized in every ailment to meet every contingency. Infection occurred in even the more minor surgical procedures. A callousness towards death seemed to be the first qualification for the surgeon.

The respect in which Latin was held made it the channel for expression for all the clinics and lectures as well as for orders regarding the patients. Human nature measures up about the same in all ages, and this predeliction for Latin must have made for considerable confusion.

The comment upon Dupuytren is extremely interesting. His ambition as well as his industry and skill seemed to know no limit. At the age of thirty he had already made a great name for himself, and in 1808 was appointed joint chief surgeon with Pelletan, the eloquent successor of Desault, at the Hotel Dieu, but in 1815 succeeded in having the latter ousted and himself made surgeon in chief. He was a hard worker and was the first to arrive and the last to leave the hospital, doing as much of his work himself as he could possibly do. His lectures were always improvised.

He performed all his cataract operations with the patient in bed. He did the operation of depression, except when the lens was too soft, and then he did a kind of discission operation. The notes are given of an operation for the improvement of sight in a case of anterior adherent leukoma in which the operator endeavored to sever the adhesions with a needle. In reading this, one cannot help but be impressed with the optimism that guided these surgeons. The fact that failure attended so many of their endeavors discouraged them not in the least, and they repeated the same operation time and again. Dupuytren's clinic covered three classes of cases, for the most, removal of kidney stones, treatment of hernia, and fractures, with their subsequent amputations. They were extremely shy of abdominal operations at this period. In the removal of renal calculus given in the book, the record shows that the surgeon tried every procedure on the cadaver before trying it on the living subject. Infection was so common that even when the patients survived the ordeal after a long illness, they were often chronic invalids. The hospitals and homes contained many such invalids, especially those who had undergone operations for fractures.

The notes upon Larry's clinic read about the same, but we do pick up a significant point concerning bleeding from the nose in fracture of the skull. All seemed to agree that the bleeding from the nose under such circumstances was a matter of no moment.

In so many cases of fracture, both simple and compound, amputation was found to be necessary. Infection was always present, and the mortality was extremely high. Larry, the great war surgeon, was the great peace surgeon likewise, and was greatly respected. After removal of tumors, especially of the breast, it was a common practice to fill the resulting cavity with wads of linen and cotton threads. The value of the pressure bandage was evidently not appreciated. The notes on the removal of a malignant tumor of the jaw by Dupuytren, which are given in the diary, reflect a wonderful amount of courage on the part of the surgeon as well as of the patient.

The mania for amputation when less radical operations could have been performed is noted by these travelers. They visited the Materité, and noted that many of the women were kept there for several weeks before term, indicating an understanding of prenatal care even at this remote time. They also noted that puerperal sepsis abounded. At this time, they were having between 2,000 and 3,000 confinements a year in

(Continued on page xviii.)

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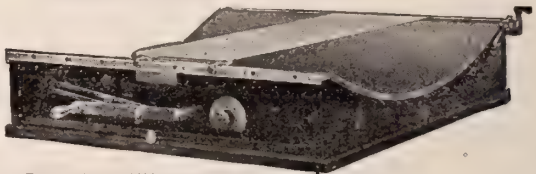
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BOOK REVIEWS

(Continued from page xvi.)

this institution. If the mothers did not care to keep their offspring, they were admitted to the foundling asylum. There must have been many illegitimate children taken care of there. There was also at this time a school for midwives, most of which were very attractive young women according to the diarist.

A feature of interest is the diarist's observations upon the guests and attendants at a ball given by the Dutch consul, Thuret, at which some of the men wore knee breeches and openwork silk stockings through which the bare skin showed quite clearly, much to the disgust of the writer.

The visit to Straasburg and the walking tour through Germany is most entertaining. The medical profession everywhere at this time seemed to have spent more time in mastering Latin nomenclature than in mastering more essential features of their art, from the comments these lads make. Later, in discussing Tubingen, they refer to the mortuary, where the corpse was provided with several strings tied to the arms which were connected with a bell in the inspector's room, so that should the supposed dead move ever so slightly, the inspector could be immediately notified that life was not extinct. The diary further notes that the Tubingen students dressed peculiarly and had beards, and altogether looked like a wild lot. They seemed to take especial pains in this regard, more so than at any other German University at this time.

Stutgart was especially admired by these travelers. It had at this time a collection of 52,000 Bibles printed in fifty-two different languages. There was a natural-history collection worthy of mention, especially since it contained the skeletons and stuffed remains of the former king's menagerie. The present king did not think they could afford to feed all these live animals when the villagers were so hungry and starved, so he had the animals killed and stuffed and everybody got just as much good from them.

From here, they went to Heidelberg, Baden-Baden and Karlsruhe, and their description of the places is most entertaining. Brucksal, they noted, was full of inns, which seemed to be the principal industry in so many of these quaint German villages. Heidelberg came in for a great share of their attention, and is described very fully.

Altogether, this is a delightful little book. Not only does it give us an insight into the surgery of the past, but it awakens an appreciation of the wonderful opportunities and advantages of the present age and a hope for still better things in the future.

OBJECTIVE PSYCHO-PATHOLOGY. By G. N. Hamilton, M.D., Director of Psycho-biological Research, Bureau of Social Hygiene, Inc., New York City. St. Louis: C. V. Mosby Co., 1925. Pp. 354; cloth, price $4.00.

The writer deals with forms of nervousness that are not due to recognized somatic causes and which are not so serious as to require institutional care. Abstracts of 200 cases seen in practice furnish a basis for setting forth conclusions that give prominence to recent psychopathological teaching. The style is lucid, and the views expressed will be acceptable to most neuropsychiatrists. Reasonable credit is given to the Freudian doctrine, but with restraint and divergences that to many will be most acceptable. The results of research through animal experimentation are presented tentatively, with no effort to draw forced conclusions but rather to plead for an extension of experimental work that should be carried on in partnership with biological research in other fields.

The book will be instructive to those who are interested in interpretative psychiatry and the neuroses. General practitioners will find it a clear and interesting presentation of the underlying causes and mechanisms

(Continued on page xx.)

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BOOK REVIEWS

(Continued from page xvi.)

this institution. If the mothers did not care to keep their offspring, they were admitted to the foundling asylum. There must have been many illegitimate children taken care of there. There was also at this time a school for midwives, most of which were very attractive young women according to the diarist.

A feature of interest is the diarist's observations upon the guests and attendants at a ball given by the Dutch consul, Thuret, at which some of the men wore knee breeches and openwork silk stockings through which the bare skin showed quite clearly, much to the disgust of the writer.

The visit to Straasburg and the walking tour through Germany is most entertaining. The medical profession everywhere at this time seemed to have spent more time in mastering Latin nomenclature than in mastering more essential features of their art, from the comments these lads make. Later, in discussing Tubingen, they refer to the mortuary, where the corpse was provided with several strings tied to the arms which were connected with a bell in the inspector's room, so that should the supposed dead move ever so slightly, the inspector could be immediately notified that life was not extinct. The diary further notes that the Tubingen students dressed peculiarly and had beards, and altogether looked like a wild lot. They seemed to take especial pains in this regard, more so than at any other German University at this time.

Stutgart was especially admired by these travelers. It had at this time a collection of 52,000 Bibles printed in fifty-two different languages. There was a natural-history collection worthy of mention, especially since it contained the skeletons and stuffed remains of the former king's menagerie. The present king did not think they could afford to feed all these live animals when the villagers were so hungry and starved, so he had the animals killed and stuffed and everybody got just as much good from them.

From here, they went to Heidelberg, Baden-Baden and Karlsruhe, and their description of the places is most entertaining. Brucksal, they noted, was full of inns, which seemed to be the principal industry in so many of these quaint German villages. Heidelberg came in for a great share of their attention, and is described very fully.

Altogether, this is a delightful little book. Not only does it give us an insight into the surgery of the past, but it awakens an appreciation of the wonderful opportunities and advantages of the present age and a hope for still better things in the future.

OBJECTIVE PSYCHO-PATHOLOGY. By G. N. Hamilton, M.D., Director of Psycho-biological Research, Bureau of Social Hygiene, Inc., New York City. St. Louis: C. V. Mosby Co., 1925. Pp. 354; cloth, price $4.00.

The writer deals with forms of nervousness that are not due to recognized somatic causes and which are not so serious as to require institutional care. Abstracts of 200 cases seen in practice furnish a basis for setting forth conclusions that give prominence to recent psychopathological teaching. The style is lucid, and the views expressed will be acceptable to most neuropsychiatrists. Reasonable credit is given to the Freudian doctrine, but with restraint and divergences that to many will be most acceptable. The results of research through animal experimentation are presented tentatively, with no effort to draw forced conclusions but rather to plead for an extension of experimental work that should be carried on in partnership with biological research in other fields.

The book will be instructive to those who are interested in interpretative psychiatry and the neuroses. General practitioners will find it a clear and interesting presentation of the underlying causes and mechanisms

(Continued on page xx.)

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BOOK REVIEWS

(Continued from page xviii.)

that are operative in many of their patients suffering from the neuropsychoses. An excellent bibliography is appended. It demonstrates better than could any review the ground covered by the author in presentation of this admirable volume.

ALLERGY—ASTHMA, HAY FEVER, URTICARIA, AND ALLIED MANIFESTATIONS OF REACTION. By William W. Duke, Ph.B., M.D., Kansas City, Mo. Seventy-five illustrations. Pp. 302. Publisher: The C. V. Mosby Company, St. Louis, Mo., 1925. Price $5.50.

The volume is essentially a clinical presentation of the subject of allergy drawn from considerable clinical study. The experimental aspect of allergy is borrowed from other writers. This embraces the first fifty-two pages, and is a good presentation of the subject, with considerable bibliography.

A botanic survey of the pollinating plants of Kansas City is given with a pictorial presentation of the plants. Hypersensitiveness to pollen, to emanations of vegetable and animal origin which include a host of substances, to dust, smoke, bacteria, sera, food and drug idiosyncrasies, is discussed with case-history presentation. It is interesting to note that next to pollen the author regards orris as the substance to which one may most frequently become hypersensitive. In the chapters dealing with the aforementioned, many remarkable cases are presented in which a patient is sensitized, for example, to cantaloupes grown only in one district; to salted roasted peanuts, but not to salted green peanuts or to unsalted roasted peanuts; to eggs only from certain hens, etc.

The general characteristics of reaction to, and symptoms of, allergy are presented. Among the latter, the author states that frequent urination and bladder tenesmus (irritable bladder) is often the result of general allergy, especially in the case of hypersensitiveness to foods.

The specific diagnosis of allergy by means of skin and other tests is discussed in detail. The shortcomings of the cutaneous tests in the diagnosis of allergy is discussed. It is interesting to note that "25 per cent of chronic perennial cases can be correctly diagnosed through the use of skin tests of any sort. This percentage varies with the class of patients which happen to consult the physician. Patients sensitive to pollen, animal hair, and other air-borne substances usually give positive skin tests, and through them, useful information can often be gained. In perennial cases and food cases, however, the result is usually disappointing." In the author's study he employs intracutaneous tests with some three hundred foreign substances, and also tests with physical agents such as ice, cold baths, refrigerated air, hot baths, dry heated air, moist heated air, sunlight and actinic rays, physical exercise, and change in air pressure.

Specific and nonspecific treatment of allergy in comparison to the space devoted to diagnosis is perhaps too briefly discussed.

Part II of the volume on physical allergy is unique. The author regards some allergic reactions such as asthma, urticaria, coryza, etc., as due to sensitivity of the patient to physical agents such as light, heat, cold, or mechanical irritation, and in the case of sensitiveness to heat, to change of temperature incident to physical and mental exertion. This conception of allergy is at variance with the ordinary conceptions of the state, and is very broad, embracing any altered reaction. According to this conception and use of the word allergy, all cases of eczema-altered sensibility of the skin becomes an allergic reaction. One could likewise speak of blushing as psychic allergy. Obviously, the use of the word allergy in this regard is confusing and undesirable.

(Continued on page xxii.)

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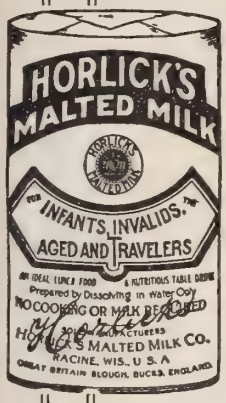
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BOOK REVIEWS

(Continued from page xx.)

The volume is a good presentation of the varied clinical aspects of allergy. It is important, however, for the reader to bear in mind that there are other causes besides allergy for the symptoms described as allergic reactions.

RADIOGRAPHY. A Manual of X-Ray Technique, Interpretation and Therapy. By Charles D. Enfield, M.D., F.A.C.P. Philadelphia: P. Blakiston's Son & Company.

This book, of some 300 pages, profusely illustrated, was written, as the author states, for medical men who do *not* specialize in roentgenology, but who find it necessary to do some or all of their x-ray work.

The book is written in a very clear, concise manner, and should prove of great value to the class of physicians for whom it is intended, who cannot spare the time to take a practical course in one of the large Roentgen-ray laboratories. The approved technic of radiographing all parts of the body is carefully described, and we believe that by following closely the text of this part of the book, the beginner cannot fail to make good, readable films.

In a work of this size it would not be possible to go deeply into the subject of the interpretation of x-ray findings. However, the author has covered the typical findings in a very long list of pathological conditions.

We note that Dr. Enfield has devoted very little space to the subject of x-ray therapy, and we commend his wisdom in doing so. The dangers to the patient are so great that we believe no attempt should be made to give x-ray treatments without a thorough course of preliminary training.

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(Concluded on page xxiv.)

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BOOK REVIEWS

(Concluded from page xxii.)

tonsil punch, an instrument which has long been discarded by most operators.

It is a matter of regret that the author did not adhere to his original intention and also include the postnasal lymphoid masses and infections of the alveolar processes. This would have avoided the use of such large type and wide paper margins and have produced a book but little larger.

CANCER MORTALITY AMONG INSURED WAGE EARNERS AND THEIR FAMILIES. The Experience of the Metropolitan Life Insurance Company, Industrial Department, 1911 to 1922. By Louis I. Dublin, Ph.D., Statistician, Edwin W. Kopf, Assistant Statistician, and George H. Van Buren, Supervisor. Published by the Metropolitan Life Insurance Company, New York, 1925.

This paper-bound booklet of 104 pages contains carefully prepared statistics that will be of interest to all students of cancer. It is a real contribution to the subject, and we regret that lack of space forbids extensive quotations.

A MEDICAL FORMULARY. By E. Quin Thornton, M.D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Twelfth Edition, revised. Philadelphia and New York: Lea & Febiger. Pp. 352, price $2.50.

This edition comes in a splendid binding and convenient size for carrying in the pocket to make it handy for ready reference by the busy doctor. The book has been entirely rewritten, and includes all changes made in the tenth edition of the U. S. Pharmacopæia. The little volume is indeed a *vade mecum* and deserves the popularity that has attended all previous editions.

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CONSTITUTION AND DISEASE*

GEORGE DRAPER, M.D.
NEW YORK, N. Y.

There is no doubt that disease is man's greatest concern. Through the ages he has turned all the energies of his imagination and intellect upon the problems of alleviating the suffering which it causes and then banishing it altogether. Every means which he could contrive has been called upon, and his thought has penetrated the problem from every angle. Long before Hippocrates lifted medicine from the realm of mysticism to an intellectual basis, men had been aware that disease had something to do with the way an individual bore himself in relation to the universe. This realization doubtless rose into consciousness from a primitive sense of adequacy or inadequacy in the face of surrounding natural forces—a feeling shared with most, if not all of the lower animal forms. Subsequently, however, as different degrees of adequacy were recognized among various people, this primitive sense became an intellectual conception.

It was observed, for example, that individuals in an epidemic displayed varying resistance to the current affliction, and it was also recognized that these differences in resistance did not depend only on transient influences, such as exposure to cold or fatigue. There seemed to be an inherent quality in the individual which rendered him less susceptible than his fellows. The nature of this inherent quality of greater or less resistance has been the subject of much speculation by physicians always, and so the conception developed with a good deal of definiteness that disease was not a presentation from some outraged deity but arose from the interplay of dynamic forces inherent in the individual and present in the world about him. But these forces are not fixed on either side—they are constantly moving, ebbing and flowing, melting and merging in a ceaseless flux.

On the one hand were the stresses of environment—heat and cold, good and poor nutriment, physical pressure, and the onslaught of other living organisms, including bacteria. On the other hand are found those factors which go to make up the individual. The signs and symptoms of disease, then, are simply the expression of the clash between these two sets of forces. Such a conception of disease makes it plain that the patient himself is a vital factor in the causal mechanism of the disease which grips him, and this realization led the older clinicians to study, so far as they could, the individual qualities of their patients.

The revival of the study of human constitution within the last few years is but a natural swinging back of the pendulum toward a phase of the disease problem which has been more or less neglected since Pasteur and Emil Fischer showed how to make accurate studies of environment. The great protagonists of constitution study—Hippocrates, Addison, Laycock, Hutchinson, and di Giovanni—did not write in vain. Their failure to enlist the same interest as did the students of environment in a matter which, after all, is but the investigation of the natural history of man, did not depend upon an unsound thesis, but upon the lack of convincing methods.

There is no subject in medicine which is so difficult to approach as the study of the inherent capacities of a human being. Not only are the characters which are represented in his form and structure, in his amazing functions, in his psyche, and his powers of immunity so complicated as to form an almost inseparable mass, but in order to make an intelligent approach to the task of analysis, it is necessary to investigate as far as possible the numerous forces which are involved in the production of the finished individual or phenotype. The forces of heredity are concerned here, and during the growth and development period of each individual, modifications of the original genetic plan are brought about through the pressure of environment.

The constitution of an individual, then, may be said to consist of that aggregate of hereditary characters, influenced more or less by environment which determines the individual's reaction, successful or unsuccessful, to the stress of en-

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

vironment. It is not possible, within the scope of this paper, to enter upon an account and discussion of the subject of genetics. Suffice it to say that by the term "idiotype" or "genotype" is meant the individual's original inheritance pattern, whereas paratypic qualities are noninheritable and refer to those observable changes in the finished form or phenotype which are the result of the pressure of environment. Obviously, then, the study of constitution has two very important and closely interwoven phases: first, the investigation of the heritage and early environment during the formative years; and second, the investigation of the finished product at the time the individual presents himself for examination. The subject of this paper must be limited to but a small part of the second phase.

It has been our effort at the Constitution Clinic of the Presbyterian Hospital to approach the study of the individual in the most objective way possible. Nor have we attempted, though realizing fully the close relationship of the endocrine glands to growth and development and subsequent function, to place the responsibility for qualities of constitution upon what must still be to a large extent a hypothetical endocrinological basis. Our studies have been, as mentioned before, of most objective nature, and have been directed to the end of obtaining data in four of the basic qualities of any animal organism and then correlating them.

It was necessary, as in all comparative work, to have some form of classification, but because of the practically complete hybridization of the white race, it was obviously impossible to secure a standard man or woman against whom to compare variants. Consequently, we made use of the other method of comparison and classification used by botanists and zoölogists; namely, the intercomparison of groups of individuals who present a sufficient number of remarkable and similar characters to justify the grouping. Many classifications of the human race have been made, depending upon their bodily habitus, but because of the hybridization mentioned, it did not seem that there would be any advantage in adding another classification of human beings on the basis purely of their bodily form. Referring again to the conception that disease is not an entity in itself but rather the inevitable expression of conflict between unique individuality and adverse specific environmental force, it appeared logical to utilize disease as a basis for classifying human beings. It must be a very particular kind of man who could develop pernicious anemia or asthma or ulcer of the stomach or gall-bladder disease. The capacity to develop a disease, therefore, has been viewed as a character of the phenotype, and consequently a coördinate of other basic characters. If, now, the members of one disease group are studied by the technic of anthropometry, and the proportions of the skeleton determined and compared with similar observations upon the skeletons of members of another disease group, certain differences appear. The capacity to develop a disease being an attribute of constitution, and the skeletal proportion being an attribute of constitution, it has been possible, as a result of these correlations, to predicate one from the other. Obviously, there is no absolutism in any animal form, so that these correlations display frequent overlappings between the groups. Nevertheless, there is a surprising amount of difference, and one which, for the clinician at least, seems to be sufficiently dependable to be used as an aid in diagnosis.

But these observations and deductions have been subjected to a very proper criticism. Which of the observed characters in a given phenotype are genotypic in origin and which are paratypic; in other words, which are truly inherited and represent basic constitution, and which are influenced—not inherited—and represent what Tandler and Julius Bauer speak of as "condition"? Furthermore, much doubt has been cast upon the dependability of morphology as an index of the presence of inward or unseen qualities. Seamans and others have pointed out that in dominant inheritance, a heterozygous individual may not be externally distinguishable from the homozygous, and that it is impossible to be sure of other inherited characters simply from the externals of a heterzygous form. Now, in the problems of clinical medicine, a situation may be found which does not exist for the student of pure biology or botany. The predisposition to a given disease may well be a dominant character which cannot appear until the clinical expression arising from the clash with the specific external agent demonstrates its latent presence. Thus, such a dominant susceptibility may lie unrecognized in a fortunate person who escapes the clash, just as an unexpressed recessive character does in the skipped phenotype.

Upon this thesis, we have proceeded to develop methods for the study of each of the four main panels of personality. So far, the work in the morphological panel alone has been developed to the point of expressing some results. But it is hoped that by the end of next year, we shall have methods for study of the other panels. The technic which we have used for the anatomical panel is, with slight modifications, that used by the physical anthropologist.

The scope of this paper does not permit a full discussion of the technic of the construction of the curves which are used for making comparisons, nor indeed of a detailed account of all the differences which have been found. The study of the face alone, for example, has been of the greatest interest and assistance. Ordinarily, when we look at the face, we are impressed, first of all, by the expression, which depends upon a variety of influences. There may be evidences of fatigue, poor nutrition, anemia and the working of emotions, but in addition to these more obvious and common clinical signs, we also see the proportions of the various segments and diameters of the bony structure of the face. These form an important part of the general morphology, and seem to hold, in man at least, more information about him than almost the entire remainder of the body. The distance between the eyes in relation to the facial diameter, the distance from the root of the nose to the alveolar border in relation to the breadth between the eyes and the facial diameter, and the relationship between the length of the face to the breadth of the face, all tell important stories.

If we take three or four of the diseases which we have studied, for example, and compare them, we find interesting material. The individuals who develop gall-bladder disease possess quite a different skeletal plan from those suffering with ulcer of the stomach. Individuals with pernicious anemia again differ widely from members of these two groups, and special characteristics are found in people suffering from hypertension and nephritis. In this latter condition, the measurements showed that the women who developed hypertension and nephritis had greater skeletal growth than the women of any other disease group; whereas the men, in respect to the same measurements, showed smaller linear growth than the males of other disease groups.

In connection with this finding, it is of particular interest to consider the observations which were made upon a group of cases from the Sloan Maternity Hospital suffering from two forms of toxemia of pregnancy. Dr. W. W. Herrick had called attention to the fact that the women who developed these types of pregnancy toxemia appeared to be large, and often with unusual amounts of hair on face and body. We made anthropometric studies of a large group of these cases.

A study of these results makes it clear that the bony enlargements are along the lines which Keith has shown to be characteristic of skeletal bone growth in acromegaly. Cushing and others have pointed out that in pregnancy transient acromegaloid states develop, and it is well-known that during pregnancy there is hypertrophy and doubtless hyperactivity of the pituitary gland.

The suggestion which flows from these observations is this: The patients who develop hypertension or nephritis under stress of pregnancy are those who display in their conformation evidences of unusual activity of the pituitary gland during the growth and development stage. It would appear that such a highly active gland was stimulated to even greater levels of activity during pregnancy, and that the pressor substances elaborated by the gland were given out in increased amounts. From a practical standpoint, a careful anthropological study of expectant mothers may make it possible to recognize those individuals who are likely to develop toxemias of the types mentioned.

Another phase of the work which appears to be of considerable significance is the investigation of the part played by the sex factor in determining constitutional resistance to disease. It has long been known that though sex is almost universally found, it does not seem to be an attribute necessary to the life of the individual. There appear in nature extraordinary expressions of the sex factor which, so far as one can see, have very little to do with the matter of reproduction. The phenomenon of gynandromorphism (that is, the condition wherein an organism exhibits body characters of both sexes, either half and half or in an elaborate mosaic) is one of great interest and importance in its bearing on the matter of constitution. Certain qualities of form, function, and psychic pattern, and doubtless also of immunity, have always been associated with one sex or another, and every one is familiar with the combinations of feminine and masculine qualities in the same individual.

The consideration of such diseases as cholelithiasis, in which about four times as many women as men are affected, or gastric ulcer, in which the reverse ratio is found, immediately makes one wonder whether the factor of sex may not be concerned in the constitutional situation which permits of the development of one or the other condition. Strength is given to this conception by the observation that males who develop cholelithiasis possess many of the characteristics ordinarily considered to be feminine. For example, the pelvis width of the male gall-bladder patient is not only actually but relatively as wide or wider than the pelvis of the females, with gall-bladder conditions. There are also found feministic traits of gesture and psyche. Furthermore, if the conception of biologists be correct, that femaleness expresses preponderantly an-

abolism and maleness catabolism, the increased ponderal index of cholelithiasis cases is another evidence of a feminine trend in the gynandromorphic mosaic. In this instance, it would appear that those individuals of one sex who succumb to a disease chiefly encountered in the opposite sex exhibit signs of an incomplete differentiation toward their own sex.

A somewhat different expression of the sex factor is found in the pernicious-anemia group. Here, the males and females are nearly equally divided, with perhaps a slight preponderance of males. Both sexes, however, show similar characteristics of skeletal formation; namely, very deep and short chests, short trunks, long extremities, and other evidences of a eunuchoid habitus. In other words, both males and females of this disease group show incomplete differentiation sexward from the basic species type. In the case of the hypertension and nephritis group, apparently a still further mode of operation of the sex factor appears. If size be a criterion of sex, it is evident (because in this disease group the females are large and the males small) that we are dealing with two different sub-species of the human race. It would appear, therefore, that the females of one sub-species and the males of another possess the specific susceptibilities which permit the development of hypertension and nephritis. If one could express it in terms of experimental animals, it would be like saying that the members of the hypertension and nephritis group are composed of male Airedale terriers and female Saint Bernards.

In conclusion, then, it may be said that the study of constitution is important to the study of medicine because it focuses attention upon one of the two essential factors to the production of disease. In addition, the studies have already shown that there is an immediately practical application; that it is possible by means of constitution study to add a definite aid to diagnosis as between two such conditions as cholelithiasis and ulcer of the stomach. Indeed, our studies begin to show that it may be possible to differentiate between ulcer of the stomach and ulcer of the duodenum, for there are certain differences in individuals with these two types of ulcer. Beside the value of constitution study in the matter of rendering diagnosis more accurate, a greater knowledge of the individuality of the patient helps the physician in his therapeutic attack, and tends to develop that all-important quality of therapeutics—accurate individualization.

33 East Sixty-eighth Street.

*SYMPOSIUM ON ORTHOPEDIC SURGERY**

PREVENTION OF DEFORMITY

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Although much is being written at present about preventive medicine, the greatest stress is laid on prevention of the infectious diseases. State and county health departments and life-insurance companies are devoting so much time and money to the prevention of disease *per se* that today smallpox is a disgrace to the community in which it occurs, and typhoid fever is becoming a curiosity. In tuberculosis, the trend of the times is toward early recognition and preventive treatment of the so-called pretuberculous. There has, nevertheless, been very little written about the prevention of deformity, except in orthopedic journals and textbooks on orthopedic surgery.

In the treatment of an injury it is often necessary to put the part at rest, or at best to permit movement only within a limited range, resulting in temporary loss of function. It is essential, then, that everything be done to facilitate the return of the diseased or injured member to normal. Such cases too often have as their sequel stiffened and malposed joints.

In the effort to put a fractured bone in good position, the physician too often forgets the necessity for a proper position of the extremity as a whole. As a result, although the fracture unites, deformity may develop because the fundamental principles of its cause have been overlooked. The same principles apply whether the cause of deformity is paralysis or injury to nerves, bones, or soft parts.

A proper appreciation of the antagonistic action of muscle groups is necessary. If one group of muscles is injured or paralyzed, the opposite group, being unapposed, will contract while the injured group will stretch. Even though recovery ensues, a structural change will have taken place that prevents the two groups from resuming their normal relation. This applies not only to muscles, but also to ligaments and bones, particularly in growing children. In paralytic conditions, especially the temporary paralyses, structural adaptation to deformed position will take place, so that by the time there is a return of muscle power, the extremity is so distorted by contracture of the unparalyzed muscles that function

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

is limited or entirely lost. Both posture and the force of gravity must be reckoned with in these cases.

If, as a result of acute and destructive inflammatory processes about a joint, it is feared

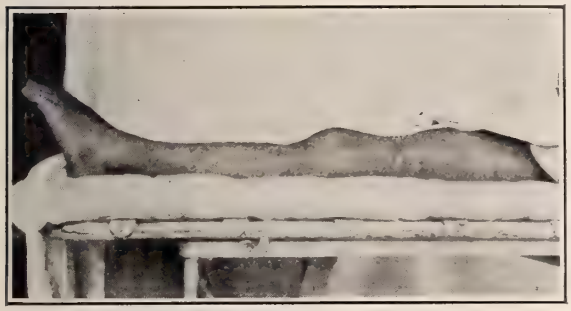


Fig. 1. Stiff, straight knee and equinovarus deformity of foot following prolonged fixation in plaster cast.

that permanent stiffness or ankylosis will occur, it is best to place the member in the position in which it will be most useful. While not prevention of deformity in the strictest sense of the word, this is at least prevention so far as circumstances permit.

Consideration of the best position in which to splint or brace an injured or diseased part is important. Figure 4 shows a few of the very simple splints whose proper application will prevent deformity of either upper or lower extremity or the trunk. Figure 4-a shows abduction arm splints and aluminum cock-up splint for the hand and wrist. Figures 5 and 6 show the Thomas splint and the Cabot posterior leg splint. These splints are simple in construction and can be made by almost any blacksmith.

The forces which keep an extremity in normal position are muscle balance and gravity. In the healthy extremity there is a well-balanced muscle pull, and the normal tone of the muscles keeps the extremity, when not in action, in a state of physiologic rest. If anything occurs to upset this balance and the part is permitted to remain in an unbalanced condition, a deformity results.

The best position for relaxation of the muscles about the shoulder joint is abduction and often external rotation, accomplished by the use of an abduction arm splint. There are a variety of



Fig. 2-b

these on the market, but it is easy to have one made by a blacksmith to suit the particular case.

The best position of the elbow is about 90 degrees or a little less, taking into consideration the patient's occupation and wishes in the matter. The position of physiologic rest for the wrist and hand is as illustrated in figure 7—moderate dorsal flexion of the wrist and slight flexion of the fingers, maintained by the cock-up splint. This can easily be manufactured from sheet aluminum or other sheet metal, making a model with a piece of stiff paper. In potential disabili-



Fig. 2-a

Infantile paralysis, neglected for 9 years, which required 16 months to secure the correction shown in figure 2-b. Most of the deformities in this case would have been preventable. (From Lovett's *Monograph on Infantile Paralysis.*)

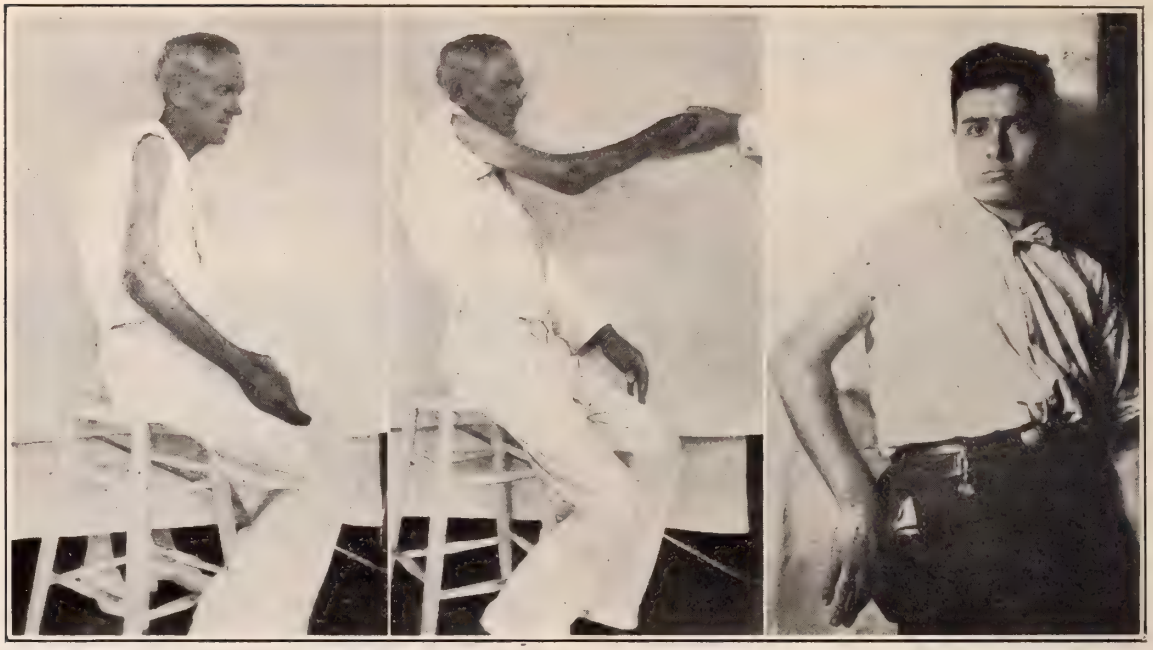


Fig. 3. Elbows ankylosed in bad position for usefulness following inflammatory disease of the joint.

ties of the hand, it is important to maintain the palmar arches.

In the lower extremities, the most common preventable deformities are flexion and adduction of the hip joint; subluxation, recurving, and flexion deformity of the knee; foot drop, claw foot; or cavus, varus, or valgus from posture or paralysis. The Thomas splint, the posterior knee splint, or the posterior wire or Cabot splint will fulfill the needs in any condition of the lower extremities.

Probably the most universally used splinting material is plaster of Paris. The principles enumerated above, so far as the position of the various parts of an extremity are concerned, apply equally when a plaster cast is used. The foot should be at a right angle to the leg, the knee flexed moderately, and when a spica is applied, the normal lordosis of the low back must be maintained and slight abduction and flexion of the thigh permitted.

Plaster is ordinarily used in two ways, either as a circular cast, or as a plaster splint. For all work, we use three sizes of plaster bandages—3, 4, or 6 inches wide, and 5 yards long. These fill all the requirements for any size of cast except for infants. For them, bandages 1½ to 2 inches wide by 2½ yards long are preferable.

For the circular cast, the extremity is covered with cotton wadding rolled in bandages the same

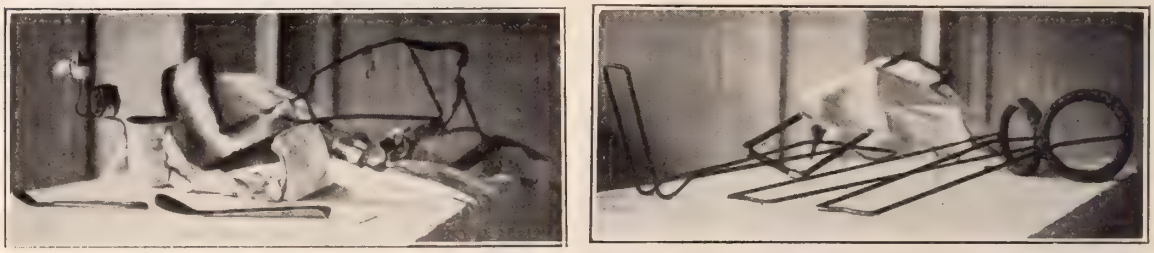


Fig. 4. Ordinary splints used to prevent deformity of upper or lower extremity and trunk. Simple in construction, easy to apply, and inexpensive.



Fig. 5. Proper and improper application of the Thomas splint.



Fig. 6. Proper and improper application of the Cabot splint.

width as the plaster bandages. The wadding must be wrapped snugly and fit the curves of the part well. The bony prominences may be padded, and protected by saddle felt cut to fit the need. The bandage is applied smoothly, without wrinkles or folds. A small wrinkle or depression in a soft cast becomes a sharp edge when the cast sets. While being applied, it must be thoroughly rubbed to incorporate the layers of the plaster bandages into each other.

To summarize: in order to reduce secondary deformity and disability, it is necessary to keep in mind the fundamental principles of the cause of deformity and to apply the few necessary

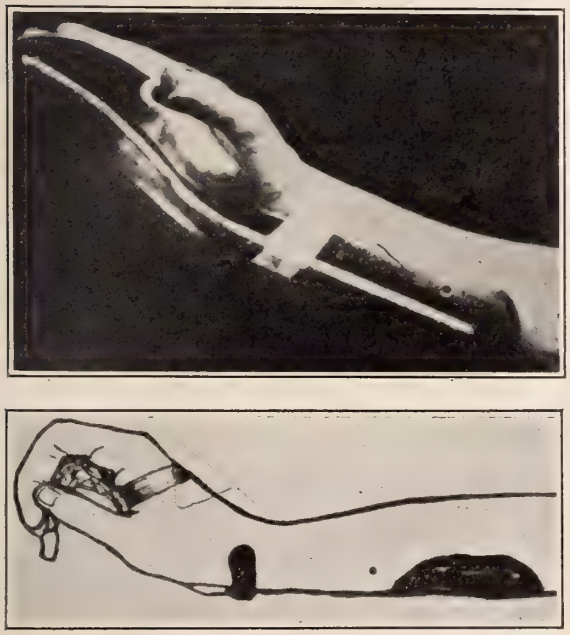


Fig. 7. Proper position in which to splint hand and wrist to prevent deformity (from Jones and Lovett's *Orthopedic Surgery*).

simple mechanical methods. This is particularly important in treating adults—especially the wage earner, so that he may be returned to earning power and economic independence as soon as possible. Some day, employers of labor and compensation-insurance companies will realize the financial advantage, as well as the improvement in morale that will follow the proper care of injuries and diseases which are apt to cause deformity, and will insist that it be carried out.

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TREATMENT AND CORRECTION OF SPINAL DEFORMITY

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Any consideration of the treatment and correction of spinal deformities must, for the sake of clarity, commence with mutual agreement upon the basic anatomy and physiology involved. The fundamentals of an anatomical nature are probably best elucidated by a comparison with the quadruped, with the idea of showing the mechanical defects and elements of strength in the human spine.

A spine is a curved, segmented, flexible, weight-bearing rod, resting in unstable equilibrium on the sacrum, which forms part of a bony ring balanced on the hip joints. The upright position is due to a sense of balance which expresses itself as a muscular contraction, by virtue of which the living individual keeps his center of gravity over the center of support. This plastic tone is reflex and instinctive. The torso is not solid, but a segmented mass, so in all positions there is a constant equilibration necessary and brought about by means of shifting segments. The base of support in the upright human figure consists of a trapezoid formed by the outer borders of the foot and lines connecting the back of the heels and the front of the toes. In the erect position the center of support always lies within this trapezoid.

The spine is evolved with comparatively little anatomical modification from the quadruped spine, and is really hardly more than the quadruped spine set upright. The quadruped spine is a horizontal, slightly arched, flexible, segmented rod, supported at either end by two limbs, the viscera hanging directly down at right angles to the supporting structure. The supporting base in the quadruped is very massive as compared with the biped. The energy required to maintain equilibrium, therefore, is very much less. The two anterior limbs, formerly serving as props, now hang as dead weights, the burden of which is transmitted through the suspended shoulder girdle to the spine.

The quadruped spine may be likened to the

ridge pole of a tent, the stability of which is easily maintained. The erect spine may be likened to the mast of a ship requiring many strong guys and ropes to maintain in perfect balance. Such a structure, then, is one rendered very susceptible to disturbances of balance, and yields to such disturbances by assuming abnormal curves in one direction or another. A certain amount of compensatory adaptation, however, takes place, but, due to the fact that the spine is the main supporting structure of the torso and upper extremities, such adaptation is never 100 per cent. There is loss in the mechanical efficiency of muscle action, as well as sacrifice in visceral function through the sagging or abnormal pressure and displacement of internal organs which takes place.

With the tremendous development of transportation and communication, together with the innumerable labor-saving inventions, all of which may be said to be a product of this era, the average individual is no longer a normal physical specimen from a mechanical point of view. With the increase in sedentary and standing occupations has come generalized ptosis of the abdominal organs, an increase in the normal lumbar forward curve, with the compensatory round-shouldered deformity. Linked with this environmental influence is the type of individual. The well-developed slender type of a high statural index, with its loose joints, small bones, and large range of motion, is particularly prone to attitudinal fault, and it is a common observation that this is the type that develops visceroptosis. The more compact, stocky, broad-shouldered type representing the opposite anatomical make-up, with large bones and small range of motion, will much less likely develop spinal abnormalities unless they be arthritic in nature or represent definite bone pathology.

Another factor in considering spinal deformities is that described by Goldthwait. In order to interpret correctly the multitudinous changes incident and secondary to spinal deformity, it is necessary to conceive of the anatomy as made up of a series of intimately integrated segments constantly working in a correlated manner. This explains, for instance, why round shoulders, flat chest, and pronounced thoracic curvatures, have their origin at the base of the spine or in a primary alteration in the tilt of the pelvis. Thinking of anatomical structure in this manner also explains why the diaphragm is less active in the visceroptotic, and its range of excursion much decreased. Because, in faulty posture, sagging of the cervical spine is present, elongation of the cervical ligaments takes place, and since these ligaments suspend the roots of the lung, and in turn the pericardium, finally attaching to the central leaflet of the diaphragm, this valuable respiratory muscle loses in efficiency.

For the frequent complaint of low backache there are a good many causes other than mechanical, but that there are many mechanical and bone pathological conditions overlooked is also true. These conditions, as encountered by the orthopedic surgeon, are principally anomalies at the lumbosacral region. This region is a veritable museum of spinal anomalies. The fifth lumbar vertebra may be partially fused to the sacrum, with the result that one side is more stable than the other. The posterior lumbosacral articulations present a wide variety of formation with accompanying mechanical instability. The deep forward curve in the lumbar region, which is so frequently seen as a result of sedentary life, increases the acuity of the angle between the spine and the sacrum, therefore increasing the stress at the lumbosacral angle. Other anomalies occasionally seen are spina bifida occulta, and lack of development of centers of ossification in the fifth lumbar or the first sacral segment. These conditions in children and early adult life only occasionally give trouble, but when sudden, unusual stress is imposed in the adult, this type of spine is much more vulnerable to sprain. A ligamentous or muscle tear which ordinarily would resolve itself in a few weeks, in this type of back, becomes a chronic affair through permanent mechanical alteration.

With the increase of stress and the ordinary infectious or toxic factors present, this region is a frequent site of the development of chronic arthritis. Other conditions, such as sarcoma of the sacrum, osteomyelitis, and more particularly tuberculosis of the sacro-iliac articulations, occur frequently enough to demand attention in the matter of diagnosis. The treatment of postural backache, the mechanical sciaticas, and the arthritides is usually to flatten the lumbar spine, thereby changing the angle of the pelvis so that the lumbosacral angle is made more obtuse. This is accomplished through exercises, corseting, and bracing in this region. In the acute sprains, usually industrial, absolute rest (preferably in a plaster jacket applied with the lumbar spine flattened) is necessary, and must frequently be followed by the wearing of a steel brace. For the postural type of patients who also have low backache, a corset or brace, with exercises particularly directed toward development of the abdominal and gluteal muscles, is necessary. Those cases presenting special pathology require a variety of treatment which it is impossible to present in this paper.

Of the numerous methods of treating scolio-

sis, but one will be described, because I have found it the most successful, yielding the quickest return to normal. The method is applicable particularly to the postural type, and confirms, as a general rule, the fact mentioned before that attitudinal scoliosis with its deformity in the thoracic region actually originates as a lumbo-

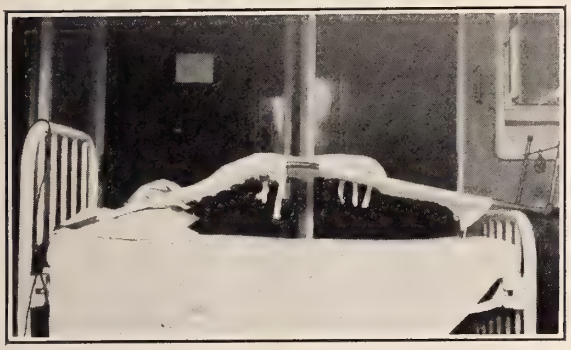


Fig. 1. Apparatus for hyperextension in dorsal recumbency.

sacral primary fault. The correction is done in an Abbot frame. The torso is rotated on the hips so as to eliminate the lumbar curve. In this twisted position the patient makes use of ordinary and augmented respiration in such a manner that twenty thousand times a day he has a slight derotation by virtue of the muscles of respiration. Very severe postural curves can be almost completely flattened within six months by this method. In cases of lateral curvature due to infantile paralysis, the treatment varies from the method just mentioned to the suspension method. A combination of a jacket applied in suspension with the proper teaching of corrective breathing is usually applicable to these cases, and serves to overcome the terrific deformities char-



Fig. 2. The posterior and anterior shells are buckled together by the use of two straps for the purpose of turning the patient.

acteristic of paralyzed abdominal and back muscles. The duration of treatment is very much longer, indicated sometimes for several years during the growth period, but the gain in general health and internal function is so great that the means is more justifiable. It is necessary also, in treating scoliosis, to remember that nutritional bone defects in infancy and lack of centers of ossification require recumbency in extension during early life.

In the treatment of tuberculosis of the spine, it may certainly be said that many hunchbacks are entirely preventable, and the paralyses due to extreme destruction with resulting impingement of bone against the cord are also preventable. Such cases cannot be seen too early for specialized treatment. Much variety of detail exists as to the treatment of Pott's disease, but on the other hand, there is general agreement in regard to



Fig. 3. Detail of shell with felt paddings and stockinette cover.

the fundamentals. After a considerable experience with fusion operations, heliotherapy, and mechanical treatment such as frames, shells, plaster casts, and braces, I am of the opinion that the speediest arrest of the destructive process occurs as a result of heliotherapy with physiological rest to the part. Following the introduction of systematic heliotherapy by Rollier, some twenty years ago, the spread of his method throughout the world has been very rapid. The increase in calcium metabolism, the general tonic effect of direct exposure, and the influence of a diet high in vitamin content, have yielded much better results than treatment which does not take

these general measures into account. While it is doubtful if a tubercular process in bone is ever completely sterilized, nevertheless it would seem from clinical observation that it is at least possible to arrest tuberculosis of bone and joint for a considerable period when properly treated, with relief from weight bearing and movement, plus heliotherapy. Whether recumbency and fixation by means of plaster shells with various corrective devices—Bradford frames and other mechanical means, or a spinal fusion by the Hibbs, or Albee method, or a combination of both—is used, depends entirely upon the special needs of the case and the surgeon's familiarity with and choice of one or another of these special methods. My own choice for the average case is the necessary preliminary splinting, correction, and general antitubercular methods mentioned, followed by the Hibbs fusion operation, which is a more thorough fixation than that of the autogenous graft.

Another main group of spinal conditions encountered is that of fractures and dislocations of the spine, a subject of such proportions that only the commonest type of fracture will be considered herein. A relatively easy method of reduction of compressed fractures of the vertebra is briefly this: The patient is placed on a flat table, and a posterior plaster shell is made, merely by laying plaster bandages over the posterior half of the body, usually from the knees to the head. The patient is then turned over, and a front shell is made. The edges are cut here and there to increase the comfort, and apertures are made for the use of bedpans, etc. (See illustrations.) The apparatus permits the patient to have a complete alcohol rub as often as necessary, and is comfortable. It prevents the development of bedsores, and in general facilitates very much the care of such patients.

The x-ray usually shows considerable collapse of the vertebral body. In order to restore its vertical diameter, it is necessary to hyperextend the region of the fracture by placing an increasing amount of padding (felt) in the immediate area. After several layers have been placed in this manner, another x-ray is taken, and if the vertebral body appears restored to its normal height, the patient remains in his shell from six to eight weeks, then in a plaster jacket for two weeks, and then a Taylor back brace for one to three months. If the deformity, a week after the initial shells are made, has not been sufficiently reduced, another shell is made with more hyperextension of the spine. In the majority of crushed fractures, it has been possible with this method to restore the vertebral body to within one-eighth or one-fourth inch of its original anterior vertical diameter, and in some cases, after full recovery it is impossible to identify the fractured vertebra.

The mechanics involved in the successful reduction of these cases depends upon the intimate attachment of the anterior spinal ligaments to the vertebral cortex. By making these ligaments taut, the fragments of the vertebra are pulled into their original shape. Anything which accomplishes hyperextension puts the strong anterior longitudinal ligament on the stretch. To make this statement seem clearer, a model may be visualized, replacing the second lumbar vertebra—the one most frequently fractured—with an artificial one. The cancellous portion of the body is represented by sponge, the cortex by china. The posterior arch, consisting of pedicles, laminæ, and processes, would then be, as in the living vertebra, largely made up of thick strong cortex and little spongy or cancellous substance. In place of the anterior ligament, a long piece of stockinette is firmly glued to the cortex of the body. Pulling from both ends of the stockinette will unfold the collapsed portion, the fragments will follow, and the contour of the vertebra be thus restored. As in any other fracture, the cancellous pulp will fill in as in an ordinary reparative process. Several cases of fracture dislocation with incomplete paralysis have entirely regained function by the same method, except that in these cases it has usually been necessary to obtain a greater degree of hyperextension. Occasionally, it may be necessary to use a spinal inlay or fusion if this method is badly executed or if callus formation is absent; but to operate early seems not only unnecessary, but it also confirms whatever deformity may be present, as well as limits spinal motion in the area involved forever afterward. In fractures or dislocations affecting the cervical spine, careful manipulation followed by a plaster collar has given very good results.

Considering the neck region separately, the main conditions are wryneck, Pott's disease, infantile paralysis, and arthritis. In tuberculosis of the cervical region, poliomyelitis, and some cases of arthritis, a permanent collar is made after a plaster model, and finished in leather and steel. It is made in two separate halves, furnishing a comfortable and effective device for the immobilization of this region. There is probably nothing more difficult to treat effectively than the adult, or acquired, wryneck. Practically always spasmodic and painful, and seldom associated with any definite evidence of pathology, these cases present a problem as yet un-

solved. No amount of tenotomy, root resection, or sympathetic resection, seems to be of the least avail. The only cases I have seen recover permanently have been those which were treated from the psychic side. The wryneck of childhood, congenital or traumatic in nature, on the other hand, is very easily remedied. If neglected throughout the growth period, this simple deformity may produce asymmetry of the face and neck. A simple tenotomy of the sternomastoid muscle followed by overcorrection and retention and physiotherapy, and exercises, will permanently correct the majority of these cases.

The treatment of arthritis and syphilis of the spine is largely the task of the internist. The elimination of foci of infection by removal of tonsils and infected teeth, the proper dietary régime (increasing the vitamins and reducing particularly starches and sugars), the treatment of gonorrhea, and the specific vaccine treatment of Burbank, are the main methods of attack. Mechanical support and operative fixation may be required to eliminate pain. Charcot spine is again a combination of medical and mechanical treatment.

In closing, it might be said that the revelations brought forth by the recent canvasses throughout the State of Pennsylvania, inaugurated by various fraternal and welfare organizations, have disclosed a huge problem. Many of these neglected cases, particularly those with little means, have been shamefully exploited by quacks. A great number of deformed individuals were discovered during the last few years, most of whom, with proper treatment from the beginning, would never have become the cripples they are. Most all of the severe deformities, it can safely be said, are caused by neglect, the accumulation of distortion in parts of the body distant from the site of disease being the result of protective positions assumed by the individual to keep the affected part at rest. Prolonged recumbency in faulty attitudes permitting gross contractions has produced the conditions found. A great majority of these derelicts, if influenced toward the proper channels in the beginning, would never have become so completely disabled and so great an economic liability to the community. Again, it may safely be said that hunchback is preventable, and the great majority of the permanent deformities resulting from infantile paralysis need never occur. I have seen several cases forced to quadrupedal locomotion due to hip-flexion contractures. These contractures are not due to hip disease, but are the result purely of neglected Pott's disease or poliomyelitis, affecting the abdominal muscles and erector spinæ. In these cases, the child lies on the side doubled up, with hips, knees, and spine flexed, and becomes fixed in this position. Such grotesque figures, such sad objects are a living challenge to be met only by close and early coöperation between general medicine and the special branch of surgery which meets, if not always adequately, at least in an increasing degree, the problems submitted to it.

716 Sassafras St.

CORRECTION OF DEFORMITIES OF THE LOWER EXTREMITIES

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In the time allotted to papers at this meeting, it is impossible completely to cover the whole list of conditions included in the title. The prevention of deformity and the correction of the more unusual types, therefore, are eliminated, and the paper is confined only to the most common anatomical defects of the lower extremities of children.

In the foot, these deformities naturally group themselves into two great classes—those of congenital origin, and those due to infantile paralysis. Of the first group, the congenital type, by far the most common defect, is talipes equinovarus, or as it is more commonly known, congenital club foot. This deformity is primarily of the soft parts only, but is most complex in character. There are contractures of the calf and tibial muscles, the plantar fascia, and the ligaments of the medial side of the foot. If weight-bearing is allowed in this deformed position, there is gradually added to these soft-part contractures, deformities of all the tarsal and metatarsal bones, together with torsion of the bones of the lower leg.

In the early stages, i. e., before bony deformity has occurred, correction is comparatively easy. Treatment should be begun immediately after birth. Stretching of the contracted tissues should be done many times a day by the mother or nurse, and continued until all the deformities can be well overcorrected. If overcorrection is found to be impossible, tenotomies and fasciotomies of all the contracted parts are indicated. In very severe cases, these may be done in the first three or four months of life. In any uncorrected case, they must be done before the part begins to bear weight. Braces to hold the feet in an overcorrected position must be used for months and often for years to prevent recurrence of the deformity.

In the older cases in which bony deformity has been superimposed on the contracted soft parts, radical operations on the tarsus are necessary. Many types of operations have been tried. Probably the most successful are the remodeling of the bones by various methods, plus the thorough lengthening of the contracted tendons. This remodeling must be sufficient to let the sole of the foot come easily into a position of mild talipes calcaneus and valgus. These operations are naturally very destructive, and it is most important that both the parents and physician be made to realize that to obtain really good results, treatment must be instituted immediately after birth and that every month that elapses increases the difficulties of correction and decreases the ultimate function of the foot.

The other congenital deformities, such as talipes calcaneus and valgus, are usually mild and easily correctible by stretching, but again it must be remembered that this stretching must be done during the first year of life.

The second great group of foot deformities, those due to infantile paralysis, present a different problem. They are due to lack of muscular balance, which is the direct result of paralysis of one or more groups of the muscles controlling foot action. The disease may occur at any age. The four years that follow its occurrence should be devoted to attempting to restore muscular function and to the prevention of deformity. Only after this period has elapsed should operative correction of deformity be considered. The permanent deformities are of four main types; (1) the flail foot, in which all muscles are paralyzed; (2) the calcaneus type, in which the child walks on the heel due to paralysis of the calf and plantar flexors; (3) the equinus or toe-walking type, in which the dorsiflexors are weak and the tendo achillis is contracted; and (4) the lateral deformities, either varus or valgus, due to paralysis of the peroneal or tibial groups.

The types of operative procedures are legion and in many special instances each operation is of value. But two main types are at present considered as being by far the most valuable. These are (1) the transplantation of the tendons of the strong muscles to take on the function of paralyzed groups, and (2) arthrodesis of the various tarsal joints to prevent motion, and thereby to correct the existing deformity. These operations have given the best results when done in patients over eight years of age. Arthrodesis should never be done before the seventh year, and had better be postponed until the tenth. In incorrectible deformities in children under this age, temporary correction by stretching or by lengthening of contracted tendons is advisable.

In the flail foot and calcaneus types of deformity, arthrodesis of the subastragalar joints with displacement of the foot backwards on the astragalus, and astragalectomy with backward foot displacement give by far the most permanent results. In the equinus type, lengthening of the tendo achillis and corrective braces are usually indicated. In the lateral deformities, arthrodesis of the joints between the astragalus, os calcis, scaphoid, and cuboid, combined in suitable cases with tendon transplantation, is unquestionably the operation of choice.

The deformities of the bones of the lower extremity due to rickets are so well-known that they may be passed with a few words. Both knock-knee and bow-leg deformties in the milder stages can be corrected by proper application of braces. In the older and more severe cases, osteotomy at the angle of greatest deformity gives splendid and permanent results. In anterior bowing of the tibia—the so-called saber-shin deformity, which occurs almost invariably in the lower third of the bone, the removal of a wedge-shaped piece of bone at the angle of greatest deformity is the method of correction.

At the knee-joint, the two most common defects are flexion contraction due to paralysis of the quadriceps and ankylosis from destruction of the knee-joint by any of the various infectious organisms.

In paralytic flexion contraction, correction of the deformity by open section of the shortened tissues and the prevention of further contraction by properly adjusted braces is the most efficient treatment. Osteotomy of the lower femur to produce hyperextension of the knee is often very useful. Muscle transplantation is occasionally useful, and fixation of the knee-joint is rarely indicated.

In knee-joints ankylosed by some infectious process, operative interference is rarely indicated, and then only when the disease has been quiescent for several years. If there are more than fifteen degrees of lateral deformity or more than forty-five degrees of flexion deformity, osteotomy to correct the weight-bearing line is often indicated. The ideal position for a stiff knee joint is fifteen to thirty degrees of flexion with no lateral deformity. Arthroplasty, or the attempt to give motion to an ankylosed knee, is indicated in only a few special types. Usually a stiff, strong, painless joint is more efficient than a weak and often painful one.

At the hip joint, there are again two common deformities—congenital dislocation and ankylo-

sis following arthritis. Congenital hip dislocation is one of the most common defects of childhood. The ideal time for correction is in the second or third year of life, i. e., as soon as the child can undergo prolonged plaster-cast treatment without danger of severe skin eruptions due to soiling of the cast. In these earlier years of life, manipulation under an anesthetic will usually reduce the dislocation. It does not matter which of the many different manipulative technics are used for the reduction, but it is of vital importance that the reduction be done skillfully, and above all, gently. Severe trauma to the head may cause changes that may be as damaging to ultimate function as the original deformity. If manual reduction is unsuccessful, the open method offers splendid chances for permanent useful function. The easiest approach to the hip joint is by subperiosteal resection of the muscles of the anterior ilium by the Smith-Petersen method. This gives a thorough exposure of the joint and facilitates the reduction of the head of the femur and the deepening of the shallow acetabulum by the implantation of a bone graft along its upper edge. Even in the old cases in which replacement of the head in the acetabular cavity is impossible, the manufacture of a new socket on the same anteroposterior plane as the old, will give a much more useful weight-bearing leg.

The after-treatment of these cases is of the greatest importance. Prolonged fixation in plaster of Paris, followed by massage and graduated exercises, is essential in obtaining the best end results.

In the second group, ankylosis from infection, the same principles hold good as in similar conditions in other joints. No operative interference should be attempted until all infection has disappeared. A stiff, painless joint in good position, is an exceedingly useful weight-bearing apparatus, and should not be interfered with except under very unusual circumstances. Faulty weight-bearing position, however, needs surgical correction, and two operations present themselves—arthroplasty, by any of the accepted technics, or osteotomy at the trochanteric region. The choice between these two methods lies not so much with the surgeon as with the patient and his family.

Arthroplasty is a severe operation, the after-treatment is exceedingly prolonged, and it offers a joint of, perhaps, fifty-per-cent-normal motion, with some slight shortening. In cases where motion is a vital factor, it is the operation of choice. Osteotomy at, or immediately below, the trochanters is a much simpler procedure. In this operation, the bone is fractured and reset in the best position for weight-bearing, usually in about ten per cent of flexion, and five to twenty degrees of abduction. It can be done much earlier after an infectious arthritis than can any operation on the joint itself. The after-treatment is greatly shortened, and it offers a painless weight-bearing leg in the correct position, but with no motion at the hip joint.

In the corrective treatment of all anatomical defects, the ultimate function of the deformed part is the goal that is sought. Skillful surgical technic is essential, but surgery alone will fall far short of this goal unless it is combined with a thorough understanding of the pathology and anatomy of the affected part, and is followed by careful, thorough after-treatment directed not only to the rehabilitation of the affected bone or joint, but of the extremity and of the body as a whole.

TREATMENT OF DEFORMITIES OF THE UPPER EXTREMITY

A Review of Results

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An attempt will be made in this paper to classify and discuss only those deformities and surgical disabilities of the upper extremities most commonly seen, and to show the functional and cosmetic results obtainable in orthopedic clinics of average standard by methods which are universally known and accepted. Orthopedic surgeons generally have given less attention to the correction of deformities of the upper extremities than to those of the lower. Consequently, neither operative nor nonoperative methods are as yet thoroughly standardized.

Paralytic Deformities

Obstetrical Paralysis.—Unfortunately, the injury during labor which results in paralysis is too infrequently treated promptly after its occurrence. The deformity, as seen in untreated cases in youth and adolescence, is usually much more pronounced than is warranted by the actual nerve damage present. Muscle atrophy and disabling contractures which are preventable account in a large measure for the disability produced. To be most effective, treatment should be applied immediately after the injury, and directed more toward the prevention of atrophy

and contracture then the restoration of damaged nerve roots.

The routine preventive treatment is as follows; All infants in whom there is the slightest possibility of luxation of the humeral head or fracture in the region of the shoulder girdle should be x-rayed and appropriate treatment applied immediately. In the less severely traumatized cases, the extremity should immediately be splinted in the position opposite to that seen in the fully developed deformity. The corrective position is as follows: arm externally rotated and abducted 90°; forearm supinated; wrist dorsally flexed; and fingers fully extended.

Massage of the entire extremity should be done after muscle tenderness has disappeared. Splinting and massage should be continued for a period of from three to six months, when the extent of permanent nerve damage will be apparent. I am convinced that many cases will have complete return of function under this routine which otherwise would develop permanent deformity from atrophy and muscle contracture.

Considerable improvement can be obtained in long-standing deformity by these same measures. A preliminary period of corrective splinting is usually required in these cases, and plaster of Paris offers the best means of accomplishing this. The wire aëroplane covered with muslin is the most convenient type where merely retentive splinting is required.

Paralysis of the Deltoid Muscle.—This condition is seen with fair frequency in infantile paralysis. Unfortunately, in many instances other muscle groups are also paralyzed. If the chief disability is that resulting from deltoid paralysis, considerable functional improvement can be obtained by arthrodesis of the shoulder joint. This operation should not be undertaken unless the muscles activating the scapula are normal or nearly so; and, of course, little would be gained if the arm, forearm, and hand power was markedly impaired. By this procedure bony ankylosis is obtained at the shoulder joint, so that the muscles of the scapula are permitted to exert their power on the arm, and are effective in abducting it through a range of about 60°. In addition, the arm can be moved through the mesial plane to the extent of about 60°. This will enable the patient to raise and lower the arm, and to reach forward and backward. The hand can easily be brought to the mouth, whereas formerly it could not. All patients whom I have observed on whom this operation had been successfully performed were most decided in their opinion regarding the functional improvement obtained.

Spastic Paralysis.—In this condition the Stoeffel operation offers sufficient functional improvement to warrant attempting it in a certain type of deformity only. Fortunately, this is the one most frequently seen—extreme pronation of the forearm, palmar flexion of the wrist, and flexion of the fingers. By very careful resection of a portion of the nerve branches supplying the muscle groups which are overacting, the disparity between opposing groups can be partially equalized, and an extremity which was formerly held rigidly in the deformed position is capable of an appreciable amount of supination, dorsal flexion of the wrist, and extension of the fingers.

Infantile Paralysis.—The following procedures are of distinct value: (1) Tendolysis, in both ulnar and radial deviation of the wrist. (2) Tendolysis, in disparity of dorsal and palmar flexion of the wrist. (3) Tendolysis to effect movement of the thumb, in case of paralysis of the long flexor and the opponens. Naturally, each case in which tendolysis is indicated offers a distinct problem in itself, inasmuch as the combinations of paralysis are so varied. For this reason, no particular procedure is mentioned. (4) Myolysis of the pronator radii teres, in extreme pronation. (5) Arthrodesis of the wrist joint, when all dorsal flexors are paralyzed and there are no available muscles for tendolysis. (6) Arthrodesis of the metacarpophalangeal and the carpo-metacarpal joints of the thumb, when no muscles are available for tendolysis.

Nerve Injuries

In injuries to individual nerves of the arm, of course, nerve suture should first be attempted. In many of these cases, this procedure fails, or is impossible on account of the extent of destruction. Muscle-balancing operations are indicated under these conditions. The functional results following myolysis for paralysis of the musculospiral nerve after the method of Jones, without doubt, are sufficiently good to warrant its use in all cases.

Functional Disability Following Subacromial Bursitis

Such cases are frequently seen. The disability resulting (inability to abduct the arm) after the acute process has subsided or completely healed, is caused by deltoid weakness or fibrous adhesions. Splinting in abduction during the acute and subacute stages will prevent deltoid weakness. Manipulation, either gradual or

forced, is indicated for the relief of adhesions. Cases showing extensive deposits may require operative intervention.

Loss of the Thumb

This is a serious disability for the reason that the prehensile function is lost. The disability is very effectively diminished by constructing an immobile rigid tissue mass at the site of the thumb in such a position that the fingers can oppose to it. This has been accomplished successfully in three different ways: by grafting a toe, by changing the position of the index finger, and by distal pedicle graft of a portion of rib and adjacent soft tissues. The last method is recommended as being least destructive and most easily accomplished.

Volkmann's Paralysis

This deformity is frequently the result of faulty methods of splinting or lack of careful observation of the circulation in a splinted extremity. If the one simple precaution of bisecting all plastic casts in acute fractures at the time of application were taken, this deformity would rarely be seen.

An appreciable amount of improvement in cases of long standing, and in which the deformity is marked, is always obtained by prolonged corrective splinting in conjunction with massage and manipulations. In the main, operative treatment has been disappointing, but it is justifiable in a limited group of cases.

Other Deformities

Scars from burns and other causes often result in extreme deformity of joints. They are mentioned here for the purpose of calling attention to the importance of their correction as early as possible, especially in children, so that secondary deformity, which is progressive with growth, will be prevented.

Congenital Elevation of the Scapula (Sprengel's Deformity) often passes unnoticed until near the end of the period of growth. At this time little can be done. Operative treatment or nonoperative corrective treatment in childhood results in an appreciable amount of improvement.

Recurrent Dislocation of the Shoulder Joint may be prevented in many cases by more prolonged fixation following the initial dislocation. Operative correction in well-established cases frequently relieves the condition.

Loss of the Carrying Angle of the Elbow following fracture of the lower end of the humerus is easily correctible by transcondylar ostectomy of the humerus. While, as a rule, no functional disability is present from the deformity, patients frequently apply for treatment for cosmetic reasons.

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*SYMPOSIUM ON CUTANEOUS MALIGNANCY**

THE CAUSES OF CANCER OF THE SKIN

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Cancer of the skin lends itself more readily, perhaps, to a study of the causative factors involved than cancer in any other part of the body. A consideration of these is not without interest in its bearing on carcinoma elsewhere.

Sunlight

Long-continued exposure to sunlight, particularly in predisposed individuals, appears to be a distinct contributory factor. The region of the body exposed to the sun, namely, the face, is the most common cutaneous site of epithelioma. Furthermore, the highest incidence of cancer of the skin, from the viewpoint of occupation, is in farmers and sailors. It is obvious that those engaged in these vocations are more exposed to the solar rays than other workers.†

X-Rays and Radium

There is also collateral evidence which bears on the subject. Light is a form of electronic energy which is in a general way related to other forms of electronic energy capable of producing cancer. The unfortunate cancrogenic power of the x-rays and radium is too well-known to require more than mention.

Rarity in Colored People

The negro, perhaps by reason of the presence in the skin of a layer of pigment, is almost immune against cancer of the skin, particularly of the face. In an experience of thirty years, during which time I have seen many thousands of negroes with diseases of the skin, I have seen but one colored person with cancer of the skin of the face, and that patient was a female light-colored mulatto. Moreover, one virtually

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†It is interesting to observe that, according to the 1914 United States Census Report on cancer mortality, the percentage of deaths from cancer of the skin in relation to total cancer deaths in the *rural* part of the registration area was twice as great as in the *cities* of the registration states. In the rural districts there were 1,184 deaths from skin cancer in an aggregate of 21,464 deaths from cancer, or over 5 per cent. In the cities, there were 654 deaths from skin cancer in an aggregate of 28,593 deaths from cancer, or 2.5 per cent.

never sees keratoses in this race, and keratoses are the precursors of sunlight carcinoma.

Xeroderma Pigmentosum

One of the most remarkable diseases which the physician is called upon to treat is *xeroderma pigmentosum*. This affection, fortunately rare, occurs in groups of children in the same family. As many as seven children in one family are known to have been attacked. The disease is familial, but not hereditary, the parents never suffering from the disease. The first symptoms are usually marked freckling at about one year of age, associated with dryness of the skin of the face, and later, slight capillary distention. Later, various growths, chiefly cancer, develop in the skin, and most patients die before the age of five is reached. The appearances greatly resemble chronic x-ray effects. The subjects of this disease are hypersensitive to the sun's rays; indeed, the sun to them is virtually a huge x-ray tube to whose noxious effects they are constantly exposed. There is suggestive evidence that the marriage of first cousins, or other degrees of consanguinity, is a factor in developing this hypersensibility to the sun's rays.

Moles, Nevi, and Senile Keratoses

Cancer of the skin commonly develops at the site of previous lesions in the skin. It is often stated that "warts" may develop into cancer. This is not true if the term "wart" is used in its proper sense. The true wart is a parasitic excrescence, probably due, as shown by Wile, to a filtrable virus. Verrucous patches, however, are commonly seen upon the skin, the face, or the back of elderly persons. These are senile keratoses, which represent a degenerative condition and are prone to develop into cancer.

Pigmentary moles not uncommonly eventuate in carcinoma, sometimes of the melanotic type, particularly in individuals advancing in years, or in younger persons as a result of repeated traumatism. It is, therefore, in a general way, good practice to remove such growths. It matters not how they are removed, so that the destruction be complete and thorough. On the face, moles may be advantageously removed by the thermocautery or electro-desiccation with little or no scarring. Pigmentary moles are extremely common, and, in my experience, a hereditary tendency plays a considerable part in their development. Other forms of nonpigmented papillary nevi appearing at birth, or some years later, are potentially liable to malignant change. The vascular nevus or angioma rarely undergoes such a metamorphosis.

Crude Coal Tar and Paraffin

It is a well-established fact that long-continued exposure to crude tar and crude paraffin may lead, in some persons, to the development of multiple cancer of the skin. Quite a considerable number of such cases have been recorded in the literature.



Fig. 1. Epithelioma of the nose in a mulatto woman. This is the only case of carcinoma seen in a negro in a large experience.

The writer observed a man working in a tar-paper plant, who had cancer of the scrotum and scores of growths on the arms. A visit to this establishment revealed four other men with beginning epithelioma of the skin of the hands. There would appear to be in crude tar some chemical substance which is capable of stimulating epithelial cell growth. This view is confirmed by the ability to produce, almost at will, cancer in white rats by long-continued painting with crude coal tar. A single application of hot coal tar has caused cancer in white mice.

Internal Ingestion of Arsenic

The long-continued ingestion of arsenic for therapeutic purposes has been known to produce multiple cancer of the skin. It is not rare to see patients who have been taking Fowler's solution over long periods of time develop upon the palms of the hands and soles of the feet circumscribed, elevated, horny lesions that have been called "arsenical warts." These keratoses may break down and form an ulcerated area, or elevated epitheliomas may develop without previous keratoses. The writer has seen several such cases in psoriatic subjects overtreated with

arsenic. In one patient, amputation of the hand became necessary.

A consideration of the above data leads one to the conclusion that various forms of irritants, physical and chemical, operating from without or from within, appear to be capable of producing cancer of the skin. In addition to these factors is an *individual predisposition,* in certain persons, to the *spontaneous development of multiple skin cancers.* In a condition called "multiple benign cystic epithelioma" of the skin, numerous lesions appear upon the face from time to time, running a benign course with little or no tendency to metastasis, but at times with considerable local destruction. In some persons, the tendency to epitheliomatous foci is not limited to the face, but develops also on the trunk, arms, etc. These patients must be constantly under medical surveillance in order to make sure that the growths are destroyed early and thoroughly.



Fig. 2. Xeroderma pigmentosum in the early or "freckled" stage, i e., before neoplasms have developed.

We are completely in the dark as to the cause of the cancerous diathesis in these patients.

Fortunately, in the vast majority of cases, cutaneous cancer does not tend to metastasize. The percentage of cures, therefore, is very high. One can never be absolutely sure of the nonmetastasizing character of a growth, however small, and therefore, destruction by one or another method is advisable. Attention to precancerous conditions such as moles, keratoses, etc., will often prevent the development of cancer of the skin.

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THE DIAGNOSIS AND PROGNOSIS OF SKIN MALIGNANCIES†

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Although the subject covers a rather widespread category of skin conditions, and although under this heading we find included a rather great variety of clinical entities, this paper will deal only with the following conditions: basal-cell epithelioma, squamous-cell epithelioma, Paget's disease and sarcoma of the skin.

The secondary cancers which originate from distant primary lesions, and varieties of uncommon cancer will be omitted.

Walter Highman says that the diagnostic problems connected with cutaneous cancer throw tremendous responsibility upon the physician. Early recognition often converts malignant potentialities into benign ones. The matter of diagnosis is so simple that there is no excuse for errors. Although this sounds very dogmatic, the picture presented, the clinical characteristics manifested, and the history, if carefully taken, should lead one to proper conclusions in a great majority of cases.

The classification which I have made, and according to which I will discuss this subject, is necessary because it points out the important and classical entities of cutaneous malignancies, each one bearing a different prognosis, each one necessitating different measures for complete eradication.

Basal-Cell Type of Epithelioma

The least malignant cutaneous new growth is the basal-cell type of epithelioma, at times called rodent ulcer or Jacob's ulcer, occurring usually past the middle life, on the face, with special predilection for the nose, nasal labial fold, near the canthi of the eyes, the temples, and the ears. It begins as a small nodule, or gray, yellowish, or reddish-brown color, shiny and smooth, and traversed with telangiectasia; or it may begin as a small, chronic, indolent ulcer showing little or no tendency to heal, covered by a thin and adherent crust. In either instance, the lesion feels hard, its development is slow, and after a period of time, usually several months or a year, it reaches the size of a tumor. This either stands out prominently from the surrounding skin, showing a central depression with a nodular, hard, waxy border, or is an ulcerating mass covered by a brownish-black scab, which on removal shows the base to be red and nodular, uneven, and giving off a scanty

†From the Department of Dermatology of the Pittsburgh Skin and Cancer Foundation.

amount of serosanguineous secretion. Each successive removal of the scab shows an increase in the size of the ulcer. The lesion progresses peripherally more than in depth, but in its later stages, the development is more rapid and the destruction is more pronounced. This type of tumor is but locally malignant, produces no metastases and does not involve the lymphatics. The lesion is usually single, although it may be multiple.

Differentiation from lupus vulgaris and the tertiary ulcerative nodular type of syphilis, is at times necessary. If one remembers the fact that lupus vulgaris occurs early in life, and that it is composed of soft-brownish, apple-jellylike nodules, which appear dark brown on pressure with a glass slide, the differentiation will be easy. In ulcerative nodular syphiloderm we find a rather smooth, even, opaque, pinkish infiltration as a border, crescentic in shape, healing at the concave side, leaving behind this healing process a healthy scar, spreading convexly, and developing much more rapidly than a basal-cell type of epithelioma.

As the latter disease is only locally malignant, it yields an excellent prognosis. MacKee states that over 90 per cent of cases stay cured, with proper treatment, and he lists the causes of recurrence as follows: failure to destroy the lower strata of cells, resistant cells, inadequate dosage, failure to destroy peripheral cells, and failure to keep patients under observation.

Recurrences are somewhat frequent, but they can be dealt with, and for that reason patients of this type shall be examined at least twice a year to guard against them.

Squamous-Cell Type of Epithelioma

The true malignancies of the skin occurring after middle life or in the elderly appear most frequently on the lip, the extremities, the genitalia and the tongue. In the vast majority of cases, this type of lesion begins at the site of a previously existing abnormal dermatological condition—a scar, leukoplakia, a senile wart, lupus vulgaris, or keratosis. It starts as a small, hard elevation, grayish or brownish in color, which soon becomes surmounted by a rough, horny scab, which bleeds readily on removal. It grows rapidly to form either an irregular, protruding, fungating mass, or a hard, flat, plaquelike lesion whose edges, although abrupt and well-defined, seem to spread beneath or into the apparently healthy skin. This type of lesion ulcerates readily. The ulcer is covered by a thick, glary, hemorrhagic crust. The edges of it are undermined. The base of it is uneven and bright red. The edges of the tumor mass itself are hard, everted, undermined. The lesion spreads in depth, as in its periphery, and as the growth extends, it destroys the underlying structures, be they connective tissue, cartilage, periosteum, or bone, with equal impartiality. Lymphatic glands are soon invaded, and distant metastases may occur very early.

The squamous-cell type of epithelioma must be differentiated from lupus vulgaris and the ulcerative nodular type of tertiary syphilis, along the same lines as the basal-cell type of epithelioma, and, in addition, it must at times be differentiated from a primary lesion of syphilis. This condition is much more rapid in its development, leads to adenopathy much earlier in the course of its progress, and a dark-field examination will reveal the presence of Spirochæta pallida. Blastomycosis will also figure in the differentiation. This type of lesion lacks the adherent and ever-present bony hardness of squamous-cell epithelioma, and yields the offending mycelia on microscopic examination.

The prognosis is not good, the only hope of averting catastrophy to the patient lying in early recognition, and immediate institution of radical treatment, not only to the lesion, but the lymphatics which drain the particular area involved.

Paget's Disease

This peculiar form of skin malignancy affects the nipple and areola of the breast, or occasionally other surfaces of the skin, like the umbilicus, and may lead to carcinoma of the mammary glands. It appears as a chronic indurated patch of eczema, and it is from this dermatological condition that it must be differentiated.

Paget's Disease	*Eczema*
Unilateral	Bilateral
After the age of 40	Any time
Constant in course	Less constant in course
	Subject to remissions and exacerbations
Not amenable to treatment	Amenable to treatment
Nipple flattened and retracted	Nipple inflamed
Border demarcated	Patch irregular and ill-defined
Induration	No induration
Surface brilliantly red	Not so red

The prognosis is fair, if cases are dealt with radically.

Sarcoma

Sarcoma is the least frequent of cutaneous neoplasms. Fibrosarcoma and giant-cell sarcoma are the least dangerous forms, while melanomas and round-cell sarcomas are very malignant.

Melanotic sarcoma originates from ordinary raised or flat pigmented nonhairy moles, metastasizes through the blood stream, and usually by the time the first changes are noticed in the mole, widespread metastases have usually taken place, appearing at first as ordinary moles, but soon becoming larger. The patient usually lives but two years.

Jenkins Building.

THE TREATMENT OF EPITHELIOMA OF THE SKIN

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Cancer of the skin, I believe, is curable in practically all cases if treated skillfully and thoroughly, before it has infiltrated the deeper tissues and involved the cartilage, bone, muscle, mucous membrane or glands. I make this statement boldly, because we must make the public understand that the medical profession can cure this type of cancer. The "cancer quacks" or irregular practitioners have made their reputations from occasional cures of skin cancer. When these irregular practitioners obtain a cure, they advertise it far and wide, while members of the regular medical profession are called upon to patch up or care for, and finally quietly sign death certificates for their failures. (See figures 1 and 2.)

The first essential in the treatment of cancer of the skin is the accurate determination of the extent of the disease. The failures are commonly due to an underestimation of this factor. This is true especially when dealing with the squamous-cell type, which leads to metastasis, often early. It is also true when any of the deeper tissues are involved by the basal-cell variety. All of us have seen those horrible cases in which half of the face has been destroyed by a basal-cell carcinoma that had its beginning in one of those trifling lesions which certainly could have been cured if treated early and thoroughly.

The three agents which have served best, according to my observations, are radium, x-rays, and electrocoagulation. Each has its place, and frequently two or three can be combined to advantage in the same case. We can probably accomplish most by considering the location and extent of involvement.

Epithelioma of the Eyelids

In this location, radium will serve best. Radium is more intense in its local effect when brought into direct contact with malignant disease than are the x-rays, and the scar is probably less marked. The biological effect of radium is about three times as great as the x-rays for a given amount of radiation delivered into the tissues. In epithelioma of the eyelids, electrodessication is effectual, but an objectional scar is apt to form which retracts the eyelid and gives rise to ectropion. If, however, radium or the x-rays have been used for a considerable time, and the disease remains stationary, or perhaps has increased, one is almost compelled to use electrothermic methods even if deformity must follow. An ophthalmic surgeon can deal with the ectropion by means of a plastic operation.

In the absence of radium, x-rays may be used. Four times an erythema dose will be required in the average case. The conjunctiva, eyeball, and all normal structures must be carefully pro-



Fig. 1.

Two views of a patient, aged 60, who applied for treatment March 3, 1925, with extensive epithelioma involving the lip, chin, and submaxillary region. He had been treated for one year by a woman who used a cancer paste, which was given to the patient to apply himself. This shows the unfortunate results that are liable to follow when these patients get into the hands of such practitioners and receive their unskilled treatment.

tected. Some epitheliomas are especially sensitive to radiation, but it is not safe to count upon this hypersensitivity as a rule. Circumstances and the local conditions must be taken into consideration when deciding as to whether all of the radiation must be applied at once or in divided doses. When these eyelid lesions are treated early, skillfully, and thoroughly with radium or x-rays, the most perfect results are obtained. Usually, the lesion can be made to disappear without leaving a scar. (See figures 3, 4, 5, and 6.)

Epithelioma of the Face

If these lesions are treated early, thoroughly, and skillfully, the unsightly disfigurements due to advanced disease should be entirely eliminated. They all give sufficient warning, and can generally be treated, even in the precancerous stage, when a mere crust, a persisting "pimple," a degenerating mole, or a persistent irritated scar.

If the precancerous lesion is a mole, it should undoubtedly be destroyed by electrodessication. I believe moles should not be excised. I have seen repeated recurrences and metastases, of the most malignant type, following excision. I have also seen metastasis and death follow incomplete destruction by electrolysis. I have destroyed literally thousands by electrodesiccation, and have never seen one recur or metastasize. I believe that incomplete destruction is dangerous. The destruction must be done with skill and thoroughness, but if one carries it too deep, the resulting scar is correspondingly increased. Any destruction that involves the deeper layer of skin will be followed by a scar, but in patients with a light complexion, these scars gradually fade and become totally invisible. In the dark complexioned, the scar may become a shade lighter than the surrounding skin. In all instances, however, it is less objectionable in appearance than the preceding mole, and of course, the danger of cancer has been eliminated. (See figures 7 and 8.)

If the precancerous lesion is a crust, it can also be destroyed satisfactorily by electrodesiccation, by x-rays, or by radium. It is my opinion that destruction by electrodesiccation is followed by the formation of new blood vessels and, therefore, better nourishment of the affected part of the skin. If the skin is covered with multiple keratoses, the x-ray treatment will be found the most satisfactory. A full erythema dose, preferably unfiltered, must be given, sufficient to cause desquamation.

A papillary epithelioma of the skin is more easily destroyed than a lesion that is ulcerating below the level of the skin. Destruction of either type by radium or x-rays will give the best cosmetic results, but destruction by electrocoagulation, followed by the application of radium or x-rays to the full value of an erythema dose, will give quicker and more certain cures. In the routine, when a soft superficial scar is not a serious matter, it is my practice to destroy the lesion by electrodesiccation or electrocoagulation



Fig. 2.

The patient, aged 62, called for treatment March 10, 1925. He had been treated 104 times during four months by the "Abrams" method. He was told that he did not have cancer, and that he would be cured if he would stick to the "doctor." At this time he had a practically hopeless, inoperable carcinoma, involving the entire left cheek, with metastatic masses in the submaxillary region.

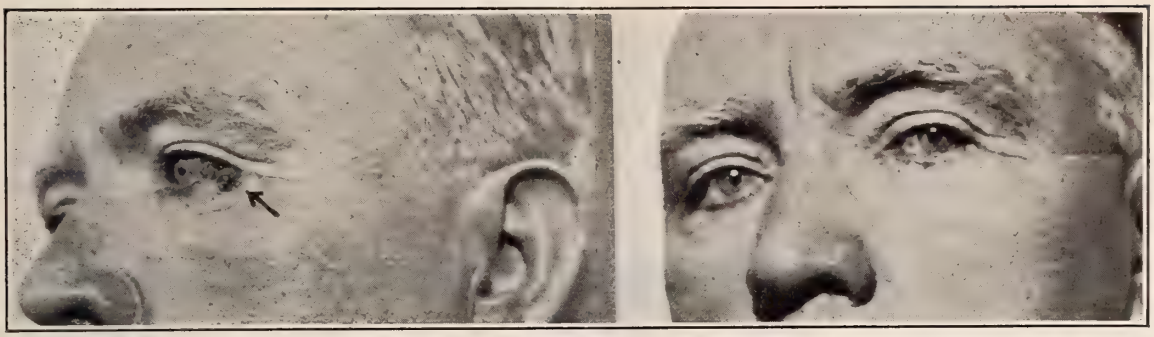


Fig. 3-A. Fig. 3-B.

Mr. R. H., aged 57, referred September 23, 1924. "A" shows epithelioma of left lower eyelid of two years' standing. A lesion of this kind should be treated at the end of a month. "B" shows the lesion healed, leaving an invisible scar, after three radium applications.

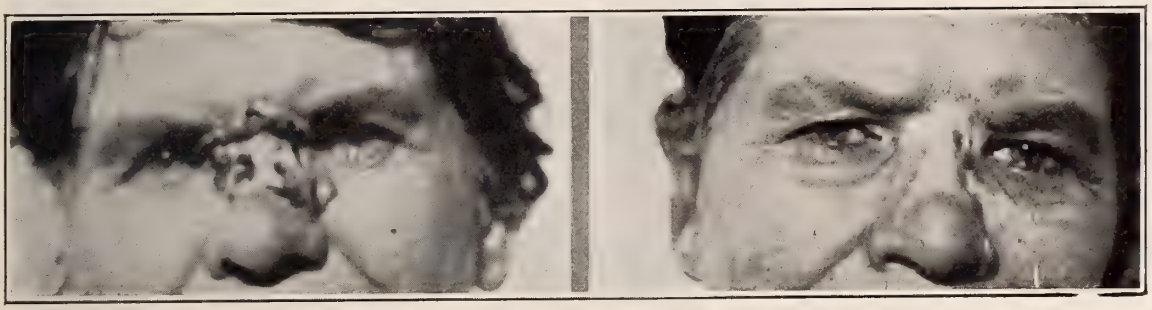


Fig. 4-A. Fig. 4-B.

Mrs. A. G., aged 60, referred September 2, 1924. "A" shows epithelioma of nose and inner canthi, growing five years, too extensive for destruction by electrocoagulation. "B" shows the lesion entirely healed on April 13, 1925, after nine radium applications in three months.

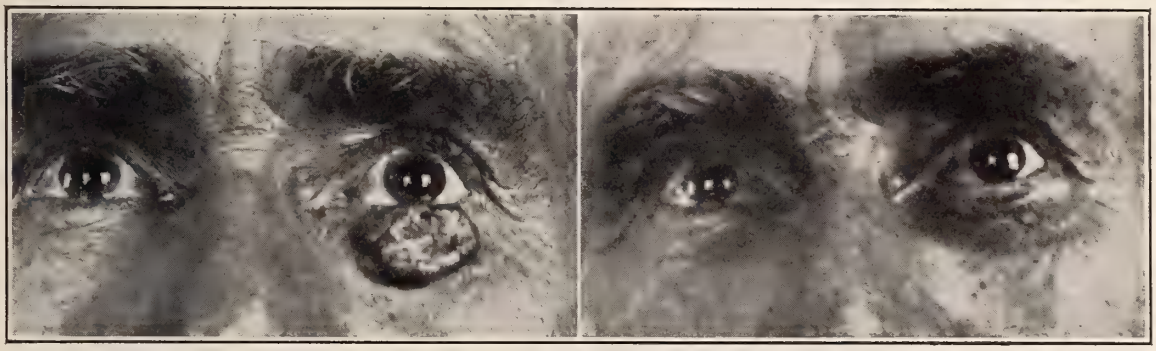


Fig. 5-A. Fig. 5-B.

Mr. J. P., aged 70, referred November 4, 1907. "A" shows epithelioma of lower eyelid of two years' duration. "B" shows lesion after six months, entirely healed by fractional doses of x-rays.



Fig. 6-A. Fig. 6-B.

Mrs. J. J., aged 44, referred April 11, 1923. "A" shows epithelioma of right inner canthus, growing for one year. "B" shows an almost invisible scar and healthy condition on June 6, 1923, after electrodesiccation, followed by x-ray treatment.

under local anesthesia, curetting away the destroyed tissue, and then to apply a full erythema dose of radium or x-rays. This is usually sufficient to make a permanent cure, but we see the patient during the healing process and commonly give another erythema dose at the end of four weeks, both as an extra precaution and because we believe we obtain a softer scar.

the face, and which have involved the muscle, cartilage, bone, or mucous membrane, are extremely difficult and often impossible to help. Fortunately, these are now rare, because of the fact that both physicians and patients are learning to treat them, or to have them treated, while they are still simple and superficial lesions that are easily cured. They develop so slowly and



Fig. 7-A. Fig. 7-B.



Fig. 7-C. Fig. 7-D.

"A" shows a recurrent growth on June 14, 1923, following excision of a mole below the left ear. The growth shown was removed for microscopic study, followed immediately by destruction of the base by electrodesiccation, which was succeeded by high-voltage x-ray treatment. The microscopic diagnosis was "black mole; malignant melanoma of the skin." "B" shows complete healing and healthy skin on March 17, 1924.

"C" shows similar moles on the right side of the neck, on June 14,1923. These were destroyed by electrodesiccation. "D" shows a clear, healthy skin on March 17, 1924. This, in my opinion, is the proper method for the removal of these lesions.

Fortunately, these epitheliomas about the nose and face are of the basal-cell type and do not give rise to metastases. They are the least malignant of all types of cancer, and are the ones by which quacks have attracted the attention of the laity.

The epitheliomas of the rodent-ulcer type which have burrowed into the deeper tissues of

recurrences are so retarded that it is often years before one realizes their incurability. Unfortunately, they too commonly have invaded the crevices between essential organs, such as the eye, ear, large nerves, and blood vessels, so that only the most radical, and at times dangerous, procedures will give any hope of completely eradicating the disease. The patients and their

friends have gradually, over a long period of time, become accustomed to the deformity, and will rarely consent to any serious operation.

One must proceed according to the conditions present. If possible, complete destruction by electrocoagulation is best. If bone is involved, it must be remembered that electrocoagulation destroys it readily, because the electric current follows it more easily than the soft tissues. If the bone is destroyed in this operation, it will be followed by necrosis, sequestration, and at times by considerable osteomyelitis. This may be justified as the lesser of two evils. If one cannot remove all of the diseased tissue, and is forced to depend solely upon radiation, the gamma rays from radium, given from a considerable quantity of radium at a distance and over a long period of time, will probably accomplish the best results. If radium is not available, the x-rays may be used as daily applications, but carefully measured and held at the "saturation" point for about three weeks. The difficulties involved in treating these lesions should demonstrate the necessity of treating them thoroughly at the beginning.

Epitheliomas of the Temporal Region and Near the Ear

These must be considered separately, because they are frequently of the squamous-cell type and give rise to metastasis. Therefore, they are very much more serious than those discussed previously. These, especially, should be treated as early as possible. The physician should speak plainly while the lesion is small, and caution the patient as to danger. I believe we should very generally speak plainly to patients about their cancers while they are small and while they can be completely cured. They are then less likely to become careless. I have never seen any one frightened to death, but I have seen many who have died as a result of carelessness, misinformation, or neglect.

In these cases, I believe the lesion should be destroyed thoroughly by electrocoagulation, and followed by heavily filtered x-rays, or prolonged gamma radiation over the neighboring lymphatics. It is wise, in these cases especially, to take a specimen immediately before destruction. If the lesion is found to be certainly of the basal-cell type, the heavy radiation of the lymphatics



Fig. 8-A. Fig. 8-B.

Mrs. J. E. B., aged 44, referred April 24, 1923. "A" shows a flat, pigmented mole, 1 cm. in diameter, which had been on the right side of the face for many years. Recently it had begun to grow. It was treated for three months by silver nitrate, two or three times a week. When referred, it was a definitely malignant growth, with extensive metastasis in the neck. "B" shows the lesion entirely healed on September 11, 1923, with a healthy scar after local destruction by electrocoagulation, and complete disappearance of the metastatic lymph nodes in the neck, following high-voltage x-ray treatment. The patient died August 23, 1924, from metastasis to the lungs.

is not necessary; but if found to be of the squamous-cell type, thorough radiation of the lymphatics is most necessary. I have never found any objection to the taking of a specimen immediately before electrocoagulation.

Epitheliomas of the Back of the Hand

These come in the same category as those in the temporal region. They are separated only for emphasis. They are frequently of the squamous-cell type and give rise to metastasis. They should be treated early and thoroughly.

Epitheliomas of the General Skin

These lesions commonly develop upon the basis of degenerating moles, burns, leg ulcers, chronic eczema, scars, etc. The treatment of these will vary with the location, character, underlying cause, and condition of the surrounding tissues. Time will not permit a detailed discussion, but in general, the principles indicated above can be carried out.

Epithelioma of the Lip

This must be considered here because it occurs commonly on the borderline of the skin and mucous membrane of the mouth. These lesions are all small at first, and at this stage are strictly localized. If they are treated thoroughly and skillfully in the beginning, practically all can be cured.

I believe the best method to be complete local destruction by electrocoagulation, to be followed immediately by a full erythema dose of high-voltage x-rays of short-wave length; and at the same time, or within a few days, a full erythema dose of high-voltage x-rays should be given under the chin and into the submaxillary region. These epitheliomas of the lip are generally of the squamous-cell type, and give rise, often early, to metastases. For this reason the lymphatics should always be treated.

If lymph nodes are already palpable when the patient comes for treatment, in my experience best results are obtained either by a complete block dissection of the lymphatics, to be followed by thorough radiation over the operative field, or by a prolonged radiation (without operation), using gamma rays, from a large quantity of radium applied at a distance. This latter method has given very encouraging results. Our records show a cure of approximately 90 per cent of the epitheliomas of the lip, providing they are treated before there are palpable lymph nodes. (See figures 9 and 10.)

General Remarks on Technic

A detailed discussion of the elementary principles of technic is, of course, impossible in any short paper. In fact, a book is required. In general, however, when the high-frequency current for electrocoagulation, or electrodesiccation is employed in the treatment of malignant disease, it must be used sufficiently to destroy all of the diseased tissue, and this should be done all at once, and not piecemeal, or at a number of visits. It is my practice to destroy the disease as deeply as I have judged it to extend, and curet or cut it away. I believe the trained eye can tell when all has been destroyed. If there is any doubt, I go beyond. The edges must be dressed so as to leave the least objectionable deformity. As much skill is required in this work as in surgical excision.

When radium or x-rays are used to destroy epithelioma, it must be given sufficiently to produce an erythema, and this effect should be kept up usually for ten days to two weeks. This requires much skill, careful measurement of the rays and a knowledge of the principles of the biologic effects. The depth value must be obtained by the use of filtration, proper distance, and proper direction, or cross-firing. These agents must be used with skill. The x-rays,



Fig. 9-A. Fig. 9-B.

Mr. G. R., aged 45, referred April 25, 1903. "A" shows the lesion which was treated extensively by fractional-dose radiation (including also the submaxillary glands), then excised by a surgeon, without removal of the glands. "B" shows the patient free from any evidence of disease, although there was still a defect in his lower lip, on April 20, 1924—21 years after. He is still well, 22 years after.



Fig. 10-A. Fig. 10-B.

Mr. A. L. H., aged 70, referred June 17, 1921. "A" shows epithelioma of the lower lip, developing one year. The lesion was destroyed by electrocoagulation, under novocain, followed by x-ray treatment over the chin and submaxillary region. "B" shows the lesion entirely healed, and the patient in excellent condition on November 11, 1921. He is still well.

radium, and electrocoagulation are physical agents like instruments or tools, and require a competent technic, just as do surgical instruments, or much harm will result. Who would think of buying surgical instruments and attempting to use them unless he had special training under a surgeon? Much of the criticism of these methods occurs because they are applied without knowledge and care. Patients must be taught to report early for diagnosis; and physicians must be thorough in their examination, alert to recognize cancer, and skillful in its treatment.

1321 Spruce Street.

COMPLICATIONS FOLLOWING TONSILLECTOMY

Observations Based on 10,000 Cases*

H. H. LOTT, M.D.
PHILADELPHIA, PA.

The object of this paper is to present the methods by which we have been able to minimize the percentage and severity of postoperative complications and the percentage of mortality.

By far the most frequent complication of tonsillectomy is hemorrhage. Less frequent complications are pneumonia, pulmonary abscess, and death from anesthesia. Acidosis is rare if precautions are taken. Violent local reaction seldom follows. All complications are less likely to occur, and when they do occur are best handled, if the physician is forewarned.

General Examination

A careful and systematic general examination, including, of course, the heart and lungs, is made in every case. All doubtful cases are held for final examination and opinion by the chief of the respective departments. Patients are required to be in the hospital the night preceding operation. A careful urinalysis is done. Acidosis is excluded. If any question as to contraindications arises, the operation is postponed until suitable studies are made. If irremediable contraindicating conditions are found and the operation is necessary, we proceed fully prepared to meet any complication that may be likely to occur. On the basis of the general examination, a suitable anesthetic for the particular case is selected. Blood examinations including a coagulation test, are made in cases of adult patients.

*From the Nose and Throat Department, Jefferson Hospital, Philadelphia, Pa.

Anesthesia

There are certain apparently minor details that go towards making ether a practically safe anesthetic. Some of these details are generally recognized, others seem to be unknown, forgotten, or at any rate not strictly followed out.

We do all tonsillectomies in children under ether anesthesia, unless there is some contraindication—which is exceedingly rare. The first precaution is, of course, to see that the patient has had nothing to eat or drink for at least eight or ten hours, previous to operation. This eliminates vomiting altogether if no blood is permitted to find its way into the stomach, and is conducive to a more pleasant anesthesia. By operating early in the morning, a fourteen-hour fast inflicts no hardship on the child.

The anesthetic is given slowly by means of an Allis cone, and at no time is the ether pushed. It is administered in a room with good light and where there is abundant ventilation, but no cold draughts. So-called ether pneumonia will be avoided to a marked extent if the latter rule is adhered to. We have never yet had a case of pneumonia following tonsillectomy, and believe it is due to the absence of cold draughts, the small amount of ether used, and careful, efficient

aspiration of blood and secretions. It is not desirable, nor should it be necessary to stand over the anesthetist and direct him. He should never be urged to hurry because the surgeon is waiting. He should be competent, and should be allowed to pursue the even tenor of his way, drifting the patient quietly, tranquilly, and gradually into an anesthetic sleep. In our clinic, the ether is administered by nurses trained in the work, and it is often surprising how calmly the children take it.

A complete anesthesia is not required as our close association with Dr. Chevalier Jackson, with his wide experience and knowledge of aspiratory troubles, has taught us to hold the cough reflexes in very high esteem, and to regard their total abolition as involving a risk. The less ether a child takes, the less liable is any pulmonary condition present to be aggravated.

In a general way, it may be stated that the more active the tussive reflex, the better it is for the patient; for if there is blood, mucus, or infectious material expressed from the tonsil, it will be expelled from the larynx and coughed up into the nasopharynx, where it can be reached and removed by suction. "The cough reflex is the watchdog of the lungs." The head is kept low to induce drainage away from the air passages, lessening the chance of inspiration of foreign material, of infective and possibly cultural potentialities.

At the clinic, in one morning, tonsillectomies are done upon ten to twenty-five children and adults. The children and the adults are divided into separate groups. Operations upon the two groups are not intermingled. The anesthetic necessary for a child is so much less than for an adult that one or the other might be under the anesthetic too long a time. If something develops that is likely to cause delay with the patient on the table, etherization of the next patient is deferred; or if that patient is already anesthetized and a suspension of the operation under way is required for any reason, one of us will operate upon the next patient while we are waiting. This is done with the idea of having the patient under ether as short a time as possible.

The best anesthetizing room is one brightly illuminated with daylight, but in any case, a well-lighted room is absolutely essential to facilitate the proper and constant observation of the patient. We had one case illustrative of this. The ether was given by a not very proficient anesthetist, in a room not well lighted. When the patient was brought to the operating room, there was complete anesthesia, shallow breathing, and wide dilatation of the pupils. It was fifteen minutes before he was sufficiently restored by the use of artificial respiration, oxygen, etc., to proceed with the operation, and it was not until after careful watching for a half hour that it was considered safe to send him back to his room. Such profound anesthesia not only incurs a direct risk of ether poisoning, but by the depression accompanying reaction from overdosage, renders the patient liable to any of the complications. Most important of all, however, is the complete abolition of the pharyngeal, laryngeal, and bechic reflexes for so long a time. The "watchdog" should not be drugged to sleep long enough for an intruder to get past and establish himself.

In any case, if the general examination or the urinalysis has revealed any irremediable contraindication to ether, it is not used. It is often permissible to give chloroform or nitrous oxid and oxygen in place of ether; and if no general anesthetic is safe, local anesthesia is used. As yet, we have not had a case for which a suitable anesthetic could not be found. We have never had a fatality with either a local or a general anesthetic in our tonsil work, so that we consider them both safe when properly used. Our cases have not, in the least degree, been selected, as it has been our custom to remove the tonsils, when necessary, under any and all conditions and at all ages. Moreover, there have been some cases in which conditions were anything but satisfactory for a recovery, to say nothing of a recovery without complications.

Local anesthesia is sometimes preferred by the patient, and sometimes it is used because of contraindications to general anesthesia. For local anesthesia, we prefer one-per-cent procain, using no superadrenalin and never cocain, no matter how weak a solution, in tonsil work. When using local anesthesia, we always have the original container placed on the table and pour our own solutions. Twice, in place of the one-per-cent procain solution asked for, I have been given cocain; once, one-per-cent and once ten-per-cent strength; and once, ten-per-cent silver nitrate solution. Fortunately, I did not use them.

There have been three cases of severe infective inflammation at the site of operation; two were done under ether and one under local anesthesia. At the time the local-anesthesia case was infected, there were two more cases done by two other men in the clinic that became infected. This led us to believe that the solution employed was to blame, as we had all used from the same bottle of anesthetic—a one-per-cent procain solu-

tion. Since then, greater care is taken in sterilization, and especially in resterilization of our local preparations. Too much should not be prepared at one time, and if there is any left over, it should be thrown away, or at least resterilized before using again. The safer way is to use ampules and throw away any solution that is left.

Hemorrhage

Hemorrhage has occurred, but is quickly controlled by pressure, by ice, or by torsion. It is seldom necessary to suture—about one case in 200 in adults, and one in 2,000 in children.

There was only one case, that of a male adult, in whom it became desirable to give a general anesthetic to stop hemorrhage after an operation under a local anesthetic. The patient, aged 48 years and poorly nourished, had had a nasal operation without complications or undue bleeding. Later, when his tonsils were removed, he had a persistent free oozing from the lower pole of the right tonsillar fossa. It was readily controllable with pressure, but would start as soon as pressure was removed. Ether was administered, and the bleeding point sutured; after which there was no further trouble. After the operation and while the bleeding was in progress, a blood-coagulation test was made. Coagulation was found to require eleven minutes, and even then only a partial coagulation took place. One month after operation, the blood-coagulation time was five minutes, which raised the question, as to whether or not the streptococcic infection present had caused a retardation of blood coagulation. This experience led us to make blood-coagulation tests prior to operation in all adult patients as a matter of precaution.

Shock

Children seem to have more shock and depression if tonsillectomy is done during hot, humid weather, especially during July, in Philadelphia.

Intercurrent Affections

In case of any abnormality developing after tonsillectomy, it is of course necessary to decide whether or not the trouble is a direct consequence of the operation. If anything unusual happens to a patient after an operation, it is possible that that particular thing was due to appear, and that the operation was performed just before symptoms developed. For instance, a woman in the medical ward was scheduled for tonsillectomy. The operation was to have been performed at eight o'clock Thursday morning. Sometime during Wednesday, she developed complete hemiplegia of the entire left side. It was only chance that saved us from having it happen a day or two later, when it would have been regarded as an unusual complication. Given any group of 1,000 children, are not some of them about to develop some trouble at any given time to coincide with the postoperative period?

Pulmonary Complications

What has just been said regarding intercurrent affections applies also to pulmonary complications. For instance, a woman scheduled for operation at 8 a. m. developed pneumonia the night before. This time, chance saved us from an "ether-pneumonia" complication.

It becomes an interesting question as to how many cases have a pulmonary lesion that is overlooked and which develops a "flare-up," possibly ending in pulmonary abscess.

In 1922 a child was referred to me for operation by the family physician, with a history of frequent colds which had resulted in a persistent bronchitis. The child was never free from cough, but nothing more than chronic bronchitis was suspected. She was operated upon under ether. Following operation, a marked improvement took place, but still the cough persisted, though it was a great deal decreased in severity and frequency. She was examined roentgenologically by Dr. Willis F. Manges, who demonstrated a number of tuberculous areas in both lungs. The tuberculosis was a purely intercurrent affection that might have been erroneously considered a complication. It constituted no contraindication to tonsillectomy; but had the child been subjected to a prolonged ether anesthesia, she might have developed serious complications.

Nevertheless, pulmonary complications do occur in the hands of skillful men, and pulmonary abscess is one of the complications to be considered when advising tonsillectomy. It is rare, considering the number of tonsil operations done; and doubtless sooner or later my turn will come. While probably many cases are of hematogenous or lymphogenous origin, as shown by Fetterolf and Fox, and hence unavoidable, some cases are certainly of aspiratory origin, and careful attention to efficient aspiration and to avoidance of deep anesthesia and prolonged abolition of the cough reflex are factors in our freedom from this complication up to the present time.

Conclusions

Complications are relatively rare, and are best avoided by attention to the following details:

(1) A careful and thorough preliminary general examination should be made, including, be-

sides urinalysis, a coagulation test, especially in adults.

(2) Unless for urgent reasons, tonsillectomy under general anesthesia should not be done within three months after total disappearance of all symptoms of an influenza, acute bronchitis, pneumonia, bronchopneumonia, or other infective disease of the tracheobronchial tract or the lungs.

(3) The anesthetic to suit the particular case should be carefully selected, preference being given to ether as a general anesthetic unless contraindicated.

(4) As little ether should be used as possible. To this end, the anesthesia should never be started too soon, the depth of anesthesia should be as shallow as possible, and the duration of operation should be minimized by every means consistent with careful work. "The cough reflex is the watchdog of the lungs," and should not be abolished for long.

(5) Novocain in one-per-cent solution is the best local anesthetic. Procain in one-per-cent solution may be used with equally good results. A freshly sterilized solution should be used for each patient.

(6) Careful suction, efficiently maintained in all operations done in the recumbent position, whether general or local anesthesia is used, is the best preventive of aspiration of blood and infective secretions.

(7) Postoperative care should include turning the face toward the bed, no pillow being used, not only to render hemorrhage at once visible, but to prevent aspiration of blood and secretions.

(8) No morphin, codin, or other sedative should be given in the postoperative period, as all paralyzers of the cough reflex favor aspiration of blood and secretions, carrying with them infective organisms.

1530 Locust St.

ANNOUNCING A HEART-STUDY CLASS

Physicians of the Philadelphia Heart Association are arranging to conduct a one-week intensive demonstration in "The Modern Methods of Heart Study," to be held in Philadelphia during the second or third week in May. The course will be open to members of the Medical Society of the State of Pennsylvania.

The plan contemplates lectures on the anatomy, physiology, and pathology of the heart, together with clinics and demonstrations at the leading hospitals and teaching institutions of the city. Special attention will be given to the organization and management of heart clinics, which are now being instituted throughout the United States in connection with progressive hospitals. Clinical heart examinations and cardiographic methods of heart study will be demonstrated and explained.

An invitation to enroll for the course is hereby cordially extended to graduates in medicine who are members of the State Medical Society, and to whom such a course appeals, especially to those who contemplate bringing to their own communities the modern methods of recognizing and treating heart affections.

There will be no fees for the course. The solitary obligation imposed is that the physicians who attend will be on hand for the opening lecture on Monday morning, and remain throughout the week until the closing demonstration given Friday afternoon.

The size of the class will necessarily be limited, in order that the demonstration may be intimate and personal. Physicians who contemplate attending are therefore requested to signify their intention by promptly registering their names with The Philadelphia Heart Association, 311 S. Juniper St., Philadelphia, Pa. Copies of the week's roster, names of lecturers, and other data will be mailed when arrangements are fully completed.

ANNUAL REGISTRATION OF PHYSICIANS

The registration of all licensed physicians and drugless healers by the State Board of Medical Education and Licensure, in accordance with the Act of Assembly, will be completed early in April. The registration is being made by counties. More than 7,000 registration cards have been sent to the physicians.

To check the names of all the persons authorized by law to practice medicine and surgery and other forms of the healing art requires much care and time. The Board is doing everything possible to get the registration cards out.

A pamphlet containing a list of all licensed practitioners and their addresses, by counties, will be printed as soon as the registration is completed. As 100% registration is desired, every physician who has not already sent his application and fee of one dollar should do so immediately.

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EDITORIALS

PREVENTIVE MEDICINE

Medical literature fairly teems with references to the various fields in which the general practitioner must be continually alert to recognize early impending disaster and forestall untoward results. It is true that, in preventive medicine, his attention has been more specifically directed to checking development of the acute infectious diseases and tuberculosis. But there are many other conditions that he must bear in mind, in which, when fully developed for want of timely recognition, little or no help can be rendered. Many of these affections showing early symptoms are too frequently dismissed with a shrug of the shoulders or a wave of the hand, or are not recognized at all. While the treatment of these belongs to the various specialties, and such patients should be referred to the proper specialist for counsel and placed under his care if the family physician deems it expedient, the general practitioner must realize that the patients first consult him, and to him belongs the responsibility for early detection. He must not only recognize the condition, but must sense the importance of calling to his aid the various specialists when he feels incompetent to give the best care and attention to the individual patient. Here, again, is an example of the value of the periodic health examination.

Apropos of this subject, the general practitioner's attention is called to the symposiums on orthopedic surgery and dermatology in this number of the JOURNAL. He will find in these articles much food for thought.

MAKE HOTEL RESERVATIONS NOW

FOR THE ANNUAL SESSION OF THE STATE SOCIETY

Owing to the congested condition of the Philadelphia hotels which will prevail during the Sesqui-Centennial, room reservations should be made at once by those who expect to attend the annual session of the Medical Society of the State of Pennsylvania, October 11 to 14, 1926.

To compensate for the necessity of early reservations there will be the opportunity of visiting the Exposition, and of enjoying the fine program of entertainment which can be provided by reason of the Sesqui-Centennial.

All communications regarding hotel reservations should be addressed to Dr. Frederick S. Baldi, Chairman, Committee on Hotels, Philadelphia County Medical Society Building, S. E. Corner 21st and Spruce Streets, Philadelphia, Pa.

OBSTETRICAL MORTALITY

MISUSE OF PITUITRIN BY THE NURSE AND THE MIDWIFE

That the mortality rate of obstetrical cases in the state of Pennsylvania is unsatisfactory, is a matter of common knowledge to those interested in general mortality statistics, as well as to all obstetricians in charge of large clinics. In a recent publication by the Pennsylvania Department of Health, a short article by Dr. Mary Riggs Noble, upon the maternal mortality in Pennsylvania, will furnish food for thought to any one who even superficially glances over it. This article comprises five short paragraphs and a map. The latter shows graphically the mortality rate in the various counties of the State, and appended is a detailed study of the mortality rate in the cities of Pennsylvania of more than 10,000 population. We should earnestly advise that all county societies obtain a copy of this article. It is sufficient, for our purposes, to

quote the death rate per 1,000 for the whole State as being 6.1 in 1925, and to call attention, further, to the fact that in 1906 the maternal mortality rate was precisely the same. It is also worthy of note that while ten cities report no mortality rate, others report from 12 to 22 deaths per 1,000.

It is undoubtedly true that deaths occur occasionally in confinement that are unavoidable, even under the best conditions in well equipped hospitals, and it is also true that in the absence of necessary facilities a patient may be lost who under better conditions could have been saved, but these facts in no way legitimize the death rate just quoted. It is, therefore, of importance to consider every possible avoidable cause for this high mortality.

The majority of the deaths, as will be seen by reference to Dr. Noble's article, occur from septic infection or toxemia, and without question, a considerable portion of those occurring from septic infection are due to an uncalled-for interference with the normal course of labor. In other words, there is some reason to believe that if the cases treated by physicians were to be separated from those cared for by nonmedical persons, it would be found that the death rate is less in the latter than in the former series.

The main purpose of this editorial is to call attention to one specific factor which will be found to be the cause of a certain number of tragedies occurring in the practice of obstetrics—the unskillful and illegitimate use of pituitrin. Two recent occurrences might be mentioned. In one case, pituitrin was administered without orders, by a trained nurse, to a patient in labor, because the nurse happened to have a social engagement which made her eager to have the case finished up promptly. Happily, there were no untoward results. The second instance occurred in the practice of a midwife in which 3 ampules of pituitrin were given by hypodermic, resulting in rupture of the uterus and hysterectomy, the patient fortunately recovering.

We do not intend to give the idea that pituitrin is not to be used in labor, as it is our opinion that it is one of the most valuable drugs in the Pharmacopeia. One might as well say that digitalis or arsenic should never be used in medicine because an overdose may be fatal, as to say that pituitrin should never be used, because its misuse may be fraught with very serious consequences. But what we do say is that pituitrin should never be used by anyone without a realization of the possible dangers. We also wish to go definitely on record as believing that if, in place of the ampule which is now on the market for obstetrical cases, one containing 3 minims were substituted by the pharmaceutical houses, much danger would be averted.

The rules of the Board of Medical Education and Licensure for the control of midwives in the State of Pennsylvania, absolutely prohibit the giving of any drug except laxatives, and ergot by mouth at the completion of labor. Under no circumstances is a midwife allowed to possess a hypodermic syringe. We have no knowledge as to the penalty imposed on either the nurse or the midwife mentioned above, but if the latter case was reported to the Bureau of Medical Education, we are sure that suitable disciplinary measures have been exercised by that body.

Unfortunately, experience compels the conclusion that many physicians also are using pituitrin in a very careless and ruthless manner. From instances which have come under our notice, we feel sure that many men look upon pituitrin as a pharmaceutical boon which enables them to expedite labor, and this without regard to possible abnormalities in mechanism or other contraindications.

THE PROBLEMS OF AN EDITOR

Discussed by the Retiring Editor of the West Virginia Medical Journal

With the December issue of the *West Virginia Medical Journal,* Dr. James R. Bloss (now president of the West Virginia State Medical Society) laid aside his editorial pen, after ten years of arduous service in bringing the *Journal* to the state of efficiency it now has attained. Publication will continue under the active direction of a committee consisting of five members, with a councilor as chairman. Hereafter all communications to the *Journal* should be directed to the office of the executive secretary, in Charleston, where it is now published.

Dr. Bloss' retiring editorial presents many points of common interest to editors of other state journals, such as: (1) "There have been many criticisms of the policies of the editor." This is one of the drawbacks of the office, and it is surprising the many who, having had no training in journalistic work, have no hesitancy in advising an editor how his columns may be improved. On the other hand, much may be done by change of type and make-up, and by more careful editing of the material used in a journal, to enhance its literary value; yet apparently only a very small percentage of the readers will recognize the improvement. It seems to be a case where "silence gives consent."

(2) "We have been criticized for our pages dealing with the state and general news because they were more or less of a 'family' nature,"

says Dr. Bloss. Many readers of the Atlantic, however, state that the pages containing these items are the first they turn to every month. We consider this a valuable part of a state journal, providing it is not made too provincial, and is properly edited. Not infrequently, material of this nature that is published in some state journals would seem to belong more properly to the county-society bulletins—if the latter exist in the states under discussion.

(3) The West Virginia journal has been "criticized because there were not more editorials of a scientific nature." Occasionally this complaint comes to the editor of the Atlantic, but only from some one who is well read in medical literature. The editorial pages of a state journal should, in the main, be used to convey messages to the general practitioner, who constitutes the largest percentage of its readers. Highly scientific editorials should be run from time to time, but not too frequently.

(4) It is of interest to note that "the editor has had very little help from the membership in the way of material for the *Journal.*" This is a universal complaint of all the state medical journals. With the exception of the county-society reports, book reviews, occasional editorials, a few stray news items, and the State Society Secretary's department, the Journal work must be done entirely by the personnel of the office of publication. The readers should realize that it is their own journal, and that their coöperation can make it of vastly more interest not only to others, but also to themselves.

SUNLIGHT FOR ILLS

The Greatest Benefit of Daylight Saving

It will soon be time for the annual discussion of daylight saving, and one of its most beneficent results is the increased enjoyment of sunlight, with its health-giving properties.

In a recent address before the Franklin Institute of Philadelphia, Dr. Charles H. Mayo stated that the two best assets upon which man can rely are sunlight and the family doctor. The influence of ultraviolet light from sun or arc light, as well as "sunlight baths," and their beneficial effects on various types of ailments, were detailed. Warning was given that only about 64 per cent of the sunshine passes through window glass, and worse yet, glass screens out the most valuable ultraviolet rays. Therefore, to obtain the best effect from sunshine, patients must be out of doors.

Daylight saving has a warm friend in Dr. Mayo. He lamented that small towns and rural districts find it so much harder to obtain and maintain daylight-saving laws than do the larger cities. Indeed, he advocated the enactment of daylight saving all the year round as a most beneficial health practice, declaring that the clocks should be changed forty minutes all the time.

Dr. Mayo stressed the fact that the family doctor is to be the greatest medical man of the future, and urged that all people with any ailment should consult their family doctor first, and then determine if the services of a specialist are necessary.

THE WET-NURSE PROBLEM

In one of our contemporaries there appears the following advertisement: "Wet nurses needed to fill increased demand at Wet Nurse Directory, under the direction and control of the Infants' Hospital," and a telephone number is given where such nurses may be obtained. The fact that this is an advertisement shows two things: (1) the demand for wet nurses, and (2) the scarcity of them. It brings up a very interesting question; i. e., the reasons for this. In other words, is it because so many mothers today are beginning to realize the advantage of human milk for their babies, and also is it because they cannot or will not supply this themselves. Our experience shows that a large percentage of American-born mothers cannot, and a still larger number will not nurse their babies, while foreign-born mothers not only can and do, but persist in doing so far beyond the time when breast nursing should be stopped. Whether or not the increase in the wet-nurse demand is due to inability or lack of desire on the part of the American-born mother to nurse her baby, it is a healthy sign, to say the least, that she appreciates the value of human milk for her baby, and is willing to purchase it, even though she cannot or will not donate it.

It is to be regretted that many large cities have no wet-nurse directory, as it might be that if such did exist, and the fact were made known throughout the community, there might be more babies naturally fed, and less artificially fed. In this case, statistics would soon show a drop in infant mortality from gastro-intestinal diseases, especially during the summer months, and during the very cold spells in winter, when the cow's milk delivered at our doors is frozen. The institution of a wet-nurse directory, and widespread notification of this fact in ways that would reach the laity (by the radio, lectures, articles in lay journals, etc., and by physicians

specially trained in pediatric work) would, in our judgment, be one of the greatest steps that could be taken in the conservation of human life, to say nothing of the tremendous physical improvement of the race as a whole from having escaped such diseases as rickets, etc., in early life, from which the artificially fed baby is so prone to suffer.

STREPTOCOCCIC INFECTION OF THE NARIS

There are many causes that produce a red nose. It may occur in teetotalers as well as in those who fare sumptuously every day. One condition that does not reflect on the patient's habits or character, but does react on the nose and the general well-being, is sometimes an exceedingly troublesome ailment to cure. A streptococcic infection of the anterior angle of the naris is not a rare complaint, and is not infrequently found among members of our own profession.

While the whole surface covered by vibrissæ may be infected, the favorite situation is the sharp anterior angle of the naris. Just above it, there is a fossa occupying the tip of the nose to which it is important to make a thorough application. This fossa is hidden from view unless the tip of the nose is lifted up or tilted, which will facilitate effective local treatment. If this is not done, results are often unsatisfactory because the infection situated here is overlooked.

Such focus is sometimes the source from which a recurrent erysipelas of the face spreads. Long-continued infection of this part of the nose often causes an obstinate dilatation of the blood vessels, and results in a permanently red nose.

Many local measures are recommended and often effective, but sometimes the condition is rebellious, and causes much suffering, pain, burning, a sense of fullness and throbbing, and not infrequently the surface bleeds.

An ointment of calomel or oxid of mercury is sometimes effective. It is well first to clip the stout vibrissæ and cleanse the nostril of any crust that may be present with a warm normal salt solution or a solution of boric acid. Pledgets of cotton dipped in a warm solution of sodium chlorid or boric acid and applied very freely to the surface until all crusts are loosened and removed are effective, and one must not neglect to pay special attention to the anterior angle of the naris, so easily overlooked, for we are dealing not only with a parasitic disease of the skin but also of the mucous surface.

If an erysipelas of the face is secondary to an infection of the interior of the nose, it is sometimes surprising how soon the former subsides when the fossa in the anterior angle of the naris receives proper treatment. One of the most efficient local measures after the crusts are softened and removed is a thorough application of ten-per-cent solution of nitrate of silver, followed by the free application of an ointment of ten per cent of thymol iodid in vaseline. The administration of vaccines of streptococci do sometimes seem to produce an immunity against a recurrence.

TREATMENT OF PERNICIOUS ANEMIA WITH HYDROCHLORIC ACID

It is twenty years since Christian A. Herter stated in a very emphatic manner that the association of the Bacillus aërogenes capsulatus with certain anemias was more than a coincidence. He said he believed that here was a fertile field for investigation, but with that it seemed to stop; at least, little attention was paid to the clinical value of the thought. During the intervening years, remarkable results have been reported from various parts of this country and Europe, mostly as a consequence of correcting an existing achlorhydria, although no definite correlation of cause and effect seems to have been noted.

About two years ago, Arthur F. Hurst reported the largest group so treated, a group in which achylia gastrica was associated with the Streptococcus longus. Upon the administration of hydrochloric acid, the organism disappeared, as well as the achylia, while the blood and general health improved.

During the year 1925, Kahn and Torrey, at the Cornell University Medical College in New York, studied 33 cases. In all of these, the Bacillus Welchii, was found in the duodenum, associated with achlorhydria and blood changes typical of pernicious anemia. On the administration of hydrochloric acid, the organism disappeared, and with the increase in free hydrochloric acid in the gastric juice, the blood picture rapidly improved. These results are certainly too consistent to be accounted for as remissions.

Different clinicians use different methods of giving hydrochloric acid. Hurst suggests the following: six drams of dilute hydrochloric acid in one and a half pints of water, with orange and sugar to taste. One third of this mixture is to be given before breakfast, one third during lunch, and the remainder during the evening meal. A grain of pepsin may be added to each dram of the acid. This of course is a daily order. In a few instances it has been necessary,

for a short time, to divide the treatment into six doses, giving one dram at each dose. However, the regular three doses should be reëstablished as soon as possible.

Strangely enough, the sensory symptoms of the hands and feet have greatly improved, giving rise anew to the question as to whether this cord lesion is due to a neurotoxin or an hemolysin. In the cases where a vaccine has been made from duodenal washings and used in conjunction with hydrochloric acid, the results have apparently been no better than when the hydrochloric acid was given alone.

Here is a simple form of treatment in which the only requirement is a check-up on the achylia, the presence of the B. Welchii or other organisms, and the classical blood picture—and finally, a report of the case.

HEALTHY PUPILS

The United States Bureau of Education calls attention to the work that has been done to engage the attention of the parents of children in many of the states in the correction of defects with which the children might have been handicapped in their school work, and which, of course, would have played their unfortunate rôle in the future welfare of the child. The desire thus to have children first entering school 100 per cent in good health, has met with very good results. The Board will conduct a campaign that will continue through the summer of 1926 to assist parents in their efforts to present their children at the school door free from remediable defects, which, if neglected, not only will result in absence from school and inability to do the scholastic work, but in many instances will be more far-reaching in their deleterious effects. It is predicted that if the campaign is taken seriously by parents it will result also in relieving the schools of some of their health work. The National Congress of Parents and Teachers has been actively coöperating in this altruistic work. Every physician should be keenly alert to assist, because only with his intelligent and efficient aid will the desired results accrue.

Three prizes are offered as an incentive to organizations to enter the contest, to develop the best method, and to obtain the best results in securing entrance into the first grade of a class of children 100 per cent perfect in health. Three judges of the competition have been appointed to examine the articles describing the methods in carrying on the campaign, the community coöperation secured, and the results obtained.

Blank cards indicating the physical fitness of children entering first grade, and containing form for physical examination and age, weight, and height tables, have been distributed by the National Congress of Parents and Teachers.

The State Departments of Education and the State Departments of Health should be closely allied with this endeavor, as they can give most valuable coöperation.

POLLUTION OF WELLS

That bacteria can be carried through soil to water wells is an important lesson for people living in the country to know. This is based upon a study made by the U. S. Public Health Service. It is all the more important because sanitation authorities have entertained widely divergent views in regard to the distance to which infection may be carried through the soil.

The Health Service selected a tract of ground, far from habitation, and made about 500 wells. Both chemical and bacterial pollutions were placed in the soil, in order to determine how far from the points of deposit the infection or pollution would be carried by the underground circulation. It was found that bacterial infection made its appearance in wells as far away as 232 feet from the nearest point of inoculation, while chemical pollution was carried 414 feet. It was proved that it was due to water circulation by the fact that the pollution was carried only in the direction of the ground-water flow. Under favorable conditions, bacteria have lived under ground up to two years and eight months, and chemical pollution has been recovered from the wells two years and nine months after being put in the ground.

Guided by the knowledge that the direction in which the danger spreads is that of the underground water flow, and the natural way of water is down hill, no one should dig a well at the bottom of a slope below the level of houses or barns placed at a higher elevation in the neighborhood. This rule of plain common sense is frequently seen defiantly violated in some country districts.

THE COST OF FUNERALS

After one of the life-insurance companies has spent $25,000 in investigating the cost of funerals, it will have discovered only what everybody knows—that funerals are expensive things, and that often more money is spent on them than the relatives or friends of the deceased can afford. Extravagance in funerals, curiously enough, is more marked among the poor than the

rich. Physicians have had the unfortunate experience in presenting bills to an estate, of finding that almost the entire amount has been used in burial. Two recent cases may be cited which are repetitions of frequent occurrences.

An unmarried laboring man died following an operation, leaving an estate of $750. A sister, who was the executrix, called to see the surgeon who had performed the operation for intestinal obstruction, to explain why she could not pay the bill of $150 which he had rendered. The funeral cost $525, the hospital expenses were $75 (four days — private-room service requested), and there were several other smaller accounts amounting to a little more than $100. As she had paid all these bills, she was unable to pay the surgeon or the attending physician.

The other case was that of an unmarried man who also died from an intestinal obstruction, leaving an estate of $625. Without taking into consideration the services incident to hospitalization, and the attending physician and surgeon, the administrator contracted with and paid the undertaker $560 for the funeral, and later advised the physicians he would be very glad to pro-rate what was left after he had paid the hospital bill, amounting to $57.

The physician always seems to be the last taken into consideration. On the other hand, why are administrators of estates permitted to get away with such vicious maladministration?

JOTS AND TITTLES

Scientific Developments of the Month

(1) Prof. Josef Schumacher on February 16th exhibited before the Microbiological Society, in Berlin, Germany, what he claimed to be cancer bacilli which he had succeeded in isolating by means of the dye, "Victoria blue." They are visible when magnified only sixty times, are slightly S-shaped, with small, ball-like swellings at each end, and are found in large quantities between healthy and diseased tissues and in the connective tissues and the walls of blood vessels, rather than in the cancerous growth itself. He stated that they will infect a patient only if he is inclined toward cancer, and that this predisposition is caused by faulty functioning of the lymphatic glands, which with advancing years fail to secrete sufficient ferments to destroy the bacilli. Prof. Schumacher has devoted himself to cancer research for thirteen years, and has been an assistant professor at Unna and Hamberg. His findings are quite unlike those of Gye and Barnard in England, and time alone will tell whether either or both are correct.

(2) The forces within the atom have been measured directly and correlated with the atomic theory in the Palmer Physical Laboratory of Princeton University, by Dr. Karl T. Compton and his associates. Dr. Compton's experiments are said to confirm the theoretical explanation of the composition of the atom made by the Danish physicist, Bohr, that it is comparable to a minute solar system composed of electrons revolving around a central proton. When an external electrical charge strikes the atom, additional energy is given the electrons, and they revolve into a larger orbit, the greater the electrical energy being brought to bear upon it, the larger the orbit, until the atom reaches its maximum state of excited activity when the electron is knocked off. In Dr. Compton's experiments, hydrogen gas was placed in a tungsten metal tube, and heated to 2,800 degrees centigrade. An electrical current from a hot filament was speeded up by applying voltage, and shot through the tube. The energy of the electrons was measured by their voltage. As their speed was increased, suddenly the hydrogen atoms began to emit radiations of a definite wave length measured by a spectrum showing only one line. This was interpreted as meaning that the atom had been changed from its normal to its first excited state. Voltage was again increased until a second line was seen in the spectrum, indicating the second excited state. The voltage applied, translated into terms of atomic energy, checked exactly with the theoretical conception. Other elements were also tested in the same way, and correlated in every instance with the theory.

(3) A new wave length in the electromagnetic spectrum has been discovered in the region between the ultraviolet and the x-rays, according to Dr. Theodore Lyman, head of the Jefferson Physical Laboratory of Harvard University. A similar announcement has also been made by C. E. Wynn Williams, of the University of North Wales, Bangor, Wales. It is said that these rays are stopped by all solids, even gold leaf. Prof. A. N. Boyka, of the Russian Magnetic Observatory has announced the invention of an apparatus which, by means of the reflection of powerful heat rays, will destroy airplanes or dirigibles while they are in flight. He claims that his appliance will project concentrated heat waves for 25 miles, with the loss of only one third of their strength. There are still a number of unexplored octaves in the electromagnetic spectrum, so that great possibilities are latent in the field of radioactivity. Its development, so far, has been merely begun.

(4) The transmutation of lead into mercury and thallium has been reported by Drs. A. Smits and A. Karssen, of the faculty of the University of Amsterdam. The method employed was similar to that recently used in attempts to transmute mercury into gold. Minute care was taken to obtain the purest lead, the quartz mercury vapor lamp being used. After ten hours, the strongest characteristic lines of mercury and also of thallium appeared on the spectrograph. The same results were obtained repeatedly. If it can, indeed, be proved that transmutation is possible, it will be strong evidence of the correctness of the atomic theory —the theory that the only difference between the various elements lies in the number and arrangement of the electrons composing their atoms. The effect on the science of medicine of these experimentations is not to be calculated, but doubtless they will in time explain many phenomena not now understood, and possibly result in opening up new therapeutic vistas.

(5) A working model of a living cell has been produced by Dr. D. T. MacDougal, director of the Carnegie Institution's laboratories for plant physiology at Tucson, Arizona, as a result of experiments with chemical substances of the same nature as those occurring in living matter. This cell will take up water and food, growing and absorbing sodium and potassium selectively in a manner similar to the absorption by plants. The period of absorption and growth, however, is short, the devel-

opment ceasing until new chemical substances are provided.

(6) At a recent meeting of the Royal Society of Tropical Medicine and Hygiene, Dr. John Hasson described a method of vaccine treatment of leprosy. He discovered that blistering of anesthetic areas in a case of leprosy results in a gathering of the bacilli in the blister fluid. These bacilli are killed and injected intravenously, a form of protein shock resulting.

(7) A number of cases of "paroptic vision" have recently been tested by the French scientist, Jean Labadie, who found that the individuals tested actually were able to detect colors and even to read without using the eyes. He believes it to be due merely to some peculiar sensitiveness of the skin nerves, which receive impressions of light and convey them to the brain in the form of definite images. Is it not possible that it is a form of sensitization to light caused by a chemical reaction? Little is known of this subject at the present time, but it provides a large field for study.

Say Pure Science Lags in America

A call to the public for funds to support research in pure science, in which this country is said to be lagging behind Germany, France, and England, was issued recently by a group of leading scientists and prominent public men of this country who have accepted appointments to serve as trustees of a National Research Endowment.

The trustees of the National Research Endowment, recognizing that human progress depends in large degree upon research in pure science, declare their conviction: "that the United States, which already occupies a leading position in industrial research, should rank with the most enlightened nations in the advancement of pure science.....that it is wiser to make large expenditures for scientific research, thus advancing civilization, improving human welfare, conserving health, and saving countless useful lives, than to tolerate unnecessary suffering, and then endeavor to alleviate it at still greater cost. That the funds now available for the support of research in pure science in the United States are far below what our population, education, and material resources demand. That the National Academy of Sciences, created by Congressional charter, the scientific adviser of the Government, and composed of leading investigators in the closely interlocked and mutually dependent mathematical, physical, and biological sciences, is peculiarly qualified to evaluate the needs of pure science in America, to stimulate its progress and to insure the widest use of funds provided for research. In view of these considerations, the trustees of the National Research Endowment, established by the National Academy of Sciences, proposes immediately to secure adequate funds for the encouragement of research in pure science."

Tours Arranged to the A. M. A. Meeting

Under the auspices of a committee composed of officers of various medical societies of the eastern states, arrangements have been completed for special tours which will enable members of these state societies to attend the meeting of the American Medical Association at Dallas, Texas, April 19 to 23, 1926, and en route to see many points of interest. Several delightful itineraries are available, and full information may be secured by writing direct to Mr. J. S. McAndrew, Tour Director, Lifsey Tours, Inc., 527 Fifth Avenue, New York City.

Berlin Welcomes American Physicians

Following the announcement in our editorial department for January, of the exclusion of American doctors from clinics at the University of Berlin, Germany, as a reprisal for the exclusion of German physicians from taking part in international medical congresses, it is of interest to learn that the Inter-State Post Graduate Assembly of North America, which plans a clinic tour abroad this June, will be welcomed by both the German Government and the Faculty of the University of Berlin. The position taken by the Assembly, during several months of correspondence, was that the organization, not being affiliated with or responsible for the acts of other medical organizations, could not sign any documents or declarations pertaining to other medical bodies, and that the same spirit of equality and justice enjoyed by the profession of other countries in their relations with one another should be extended to those of the German-speaking countries.

Fight Opens to End Death Penalty in New York

The opening salvo in a campaign to abolish capital punishment in New York State was fired when Clarence Darrow, the Chicago criminal lawyer; Kathleen Norris, novelist; Warden Lewis E. Lawes, of Sing Sing; and Dudley Field Malone all spoke against the death penalty. They said it was stupid and did not prevent murder. After the meeting, Warden Lawes and Mr. Darrow left for Washington to protest to the Judiciary Committee of the House of Representatives against capital punishment in the District of Columbia. Washington has an electric chair, but no funds to operate it, and they want to prevent the appropriation of money. According to Darrow, the old notion that punishment prevents crime is wrong, because there are generally only two kinds of murder: murder to prevent apprehension while committing a robbery or burglary, and murder due to hate growing out of a love affair. Capital punishment would not prevent the first kind of murder, but education would; he thought nothing would prevent the second. Only about 100 persons are hanged a year in the United States, he asserted, and civilization is not being saved by taking those lives. Warden Lawes said he believed capital punishment was useless, and suggested life imprisonment instead, the terms never to be commuted until at least twenty years had been served. The only exception he would make would be where new evidence justified clemency. Only one murderer in eighteen ever pays the penalty.

Vaccination as a Requirement for School Entrance

With the increase of smallpox in Urbana and Champaign, Ill., the University of Illinois authorities have ordered all persons connected with the institution to be vaccinated. Students not able to show vaccination certificates by February 17 were to be barred from classes.

All educational institutions should require a certificate of successful vaccination from each student on admission, whether or not it is a requirement in the state where the institution is located. The California experience is an example. The State had a law requiring vaccination as a condition of entrance to the public schools. In 1921 the entire vaccination law was repealed, and by 1924 the number of smallpox cases in California reached 9,426, with 56 deaths. The one exception to the several outbreaks is the University of California. "Under the constitution, the regents and not the legislature, are the lawmaking body of the University. They have persisted in requiring vaccination of all students of the University. There has never

been a case among the students. A case now in the courts of California challenges the right of the regents to exclude students on the ground of nonvaccination."

OBLIGATORY MEASURE AGAINST TUBERCULOSIS

Obligatory vaccination against tuberculosis of every baby born in France is being strongly urged by the Paris Academy of Medicine. More than one million Frenchmen suffer from tuberculosis, according to official statistics. French infant mortality is 15 per cent the first year. In tuberculous districts, four of every five children born are carried away by tuberculosis before they are one year old. The antituberculosis vaccine, which its discoverer, Professor Calmette of the Paris Pasteur Institute, calls "B. C. G.," was tried in 1,070 cases of babies born of tuberculous parents. Not one child died. Nevertheless, Professor Calmette opposes making baby vaccination compulsory. "Let us educate the parents to understand the advisability of having their children vaccinated. But let us not make it obligatory, and thus arouse a storm of antipathy to what I hope will prove a boon to France," declares the Professor. The vaccine must be administered within the first week after birth if it is to be effective, and is furnished free by the Pasteur Institute.

REDUCING A DANGEROUS FAD

Dr. Louise Stanley, chief of the newly formed Bureau of Home Economics of the United States Department of Agriculture, in popular lectures before women's clubs, is warning her hearers that reducing is a dangerous fad connected with the styles of today. Her department is fairly flooded with letters, some amusing and some very serious. One woman wrote that she wanted to "ameliorate her fat," and another asked what she could do since her husband forbade her dieting. School girls, particularly, are following this fad, for that is all it is. They never stop to realize what are the essential foods in their diet, and which ones can be eliminated.

DIGESTIBILITY VERSUS ROUGHAGE

Dr. Walter C. Alvarez of San Francisco, in an address before the American Home Economics Association, stressed the fact that, while frequently of value in treatment of constipation and various special conditions, bran and other roughage—including to some extent a great number of the vegetables—may be irritating to those with congenitally defective or handicapped digestive tracts, ulcers, or narrow places in the intestines. Care should be used in prescribing this type of diet, and inquiry should always be made as to whether similar foods have caused trouble in the past.

PUBLIC HEALTH

Cancer Mortality.—The progressive increase in the cancer death rates shown in the mortality statistics in practically all civilized countries has invited the serious attention of students of public health. The more optomistic are of the opinion that these increases in the death rate may be accounted for by improvements in medical diagnosis, increase in accuracy of vital statistics in general, greater precision in filling out death returns, changes in the age distribution of the population, and similar factors. Others are inclined to a gloomier view. They hold that the magnitude of the observed increases in the death rate is too great, too general in its distribution, to be accounted for in any such way, so that the apparent is also an actual increase in the cancer mortality.

A thoughtful study of the statistics of the ten original registration states on the course of cancer mortality was made, with the following conclusions: (1) There has been a pronounced increase in the observed death rate from cancer in persons over forty years of age in that part of the United States known as the ten original registration states. (They represent about one fourth of the population.) (2) Part of this increase is due (about 30 per cent) to greater precision and accuracy in filling out of death returns. (3) The remainder, however, is an actual increase in the mortality, resulting in a death rate 25 and 30 per cent higher than it was 21 years ago.

Syphilis as Cause of Death of Children.—The Ligue Nationale Francaise Contre le Péril Vénérien is responsible for the statement that France lost 83,482 children in a single year from syphilitic causes. In computing these figures, consideration was given to abortions and stillbirths due to syphilis, and deaths caused by syphilis in children up to fifteen years of age. It is apparent that the potential increase of population is decreased each year by approximately eleven per cent, since in France only 752,000 are born in a single year. If syphilis is not more common in France than in other civilized countries, it is easy to understand why it is known as "the destroyer of the race." Syphilis is preventable and every community should organize for its eradication.

Syphilis and Heart Disease.—The relation between syphilis and cardiac disease was discussed at the recent sessions of the Imperial Social Hygiene Congress (British) by Colonel Sir Leonard Rogers, representing the Government of India. He said that practically the whole of heart disease in India was due to syphilis, and concluded that the eradication of it would reduce heart trouble there to negligible proportions.

In this connection, it might be observed that India is not alone in recognizing the great socio-economic problem of controlling syphilis. The United States Public Health Service has recently issued a compilation of abstracts relating to visceral syphilis for use in its coöperative work with the state departments of health in the control of venereal diseases. These abstracts reflect the causative influence of syphilis in diseases of the heart, aorta, and peripheral blood vessels. Special attention is being given in all countries to the prevention of these diseases by prompt adequate treatment in the early stages of syphilis, before the heart and blood vessels become involved.—U. S. PUBLIC HEALTH SERVICE.

Cities Cannot Afford Impure Water Supplies.—In a recent article in *Engineering and Contracting,* a well-known engineer has made the statement that in a New England city of approximately 100,000, over $70,000 was paid by the inhabitants for bottled water because the purity of the public water supply was known to be questionable. This sum is said to be more than half that paid to the city in water rates. If to the amount stated is added the cost to individuals of an increased number of cases of typhoid fever and other intestinal diseases, it is evident that the people of the city in question have paid dearly for the lack of action of the authorities in securing an adequate pure water supply. It is intimated that this is due to the lack of public interest, but the writer of the article brings out the point that the public becomes interested only when given the facts by the responsible officials. This statement applies with equal force to other branches of public-health work.—*Health News.*

Pamphlet Instruction Reduces Venereal-Disease Cases.—The practical value of giving young men information regarding the venereal diseases is attested by word received by the United States Public Health Service from one of the recruiting agencies of the United States Shipping Board. Some time ago, the Public Health Service supplied the Recruiting Service of the Shipping Board with pamphlets suitable for distribution to young men. These were given out to the men of the crews on vessels operating to the Orient, and the results have been designated as "far-reaching." Physicians attached to passenger vessels report that the distribution of these pamphlets among the crews had the effect of very considerably reducing the number of venereal-disease cases.—U. S. PUBLIC HEALTH SERVICE.

INDUSTRIAL MEDICINE

Physical Fitness, One of the Essentials to Safety From Accident.—It is easy to establish the above title because no one can deny the real truth which it contains. The next question is to try to establish the meaning of "physically fit" when applied to the individual. Is a man's work or his appearance the best index to his fitness? How much work must a man do every day without inconvenience or fatigue before he can rate himself "physically fit"?

The first thing to be done, with the individual worker, if he is engaged in the handling of complex or dangerous machinery, is to establish within his own mind "the will to fitness." Those persons who do not possess the ambition or pride to progress in the world will never be able to establish within themselves "the will to fitness," but almost anything can be done with a man or woman who possesses it. Physical strength in itself is not an essential—"a will to fitness" is needed.

Bodily weakness supported by courage and hope is stronger than bodily or muscular strength unsupported by those mental and moral qualities. This is another way of saying that it is difficult if not impossible to lay down a law concerning individual fitness, or to give a complete definition of it.

All of us know of one or more persons who have lived and worked by sheer dogged will power, while we have known other persons who, although apparently healthy, have really died of the fear of dying.

Now let every worker establish within his own mind his physical fitness with respect to the machine that he is operating. Let every worker determine just how long a period throughout the day he is able to keep his mind fixed on his work without being mentally tired or mentally bored as a result, and let him carry in his mind this formula, that so long as a man is able to carry on from day to day without being reminded of some physical shortcoming, whether it be headache, backache, or muscular fatigue, he is entitled certainly for practical purposes to regard himself as physically fit, and as possessing an important status for the prevention of accidents.

If the worker is impressed with the fact that he is experiencing physical inconvenience, it is advised that he consult a physician—and what is most important, the type of physician who is possessed of a knowledge of men—and with this physician arrive, on a basis of common sense, at some conclusion as to whether it is wisest for the interest of the worker himself and for the interest of the employer to continue in the operation of the piece of machinery in question.

There is always some machine at which any man may serve during an accepted working day without inconvenience or fatigue. It is probable that under no other circumstances will the earning power and physical welfare of the worker be maintained at so high a standard.

The worker will have stabilized his physical fitness, one of the essentials to safety from accident.—*Industrial Hygiene Bulletin,* New York Department of Labor, December, 1925.

Workers' Eye Defects.—Safety often depends on normal vision, but only recently has sight testing been a routine practice before the employing of the plant's workmen.

Probably no organs are more abused than the eyes. Unfortunately, the eyes are not subject to pain while undergoing a loss of vision. It would be far better if such were the case, so that one would have some danger signal to mark this defect. It is not generally known that but fifty per cent of workers in industrial fields possess normal vision.

To show how widespread the incidence of subnormal vision is, the table below is reproduced as a cross section of workers in the more important industries.

PERCENTAGE OF WORKERS WITH NORMAL VISION IN ONE EYE OR BOTH EYES

Occupational group	Under 20 per cent	20-30 per cent	30-40 per cent	40-50 per cent	50-60 per cent	Over 60 per cent	Total per cent
Garment industry	47.4	49.4	45.3	30.8	11.1	18.2	43.6
Chemical industry	84.4	58.7	53.0	32.6	5.9	....	51.3
New York post offices	65.6	73.3	67.1	62.6	25.4	20.0	62.4
Glass industry	89.3	80.6	78.2	62.9	23.1	11.2	68.8
Steel industry	71.0	80.0	67.7	53.2	21.0	....	69.2
Gas industry		*	80.8	65.2	55.4	23.3	.... 70.1
Pottery industry	96.0	82.5	86.4	61.6	35.9	....	70.7
Foundry industry	86.6	88.9	89.3	75.1	40.4	11.1	78.3
Cigar industry	95.9	89.9	85.3	65.8	44.5	7.1	78.6
Cement industry	100.0	94.7	94.9	82.9	42.9	....	88.8

*The percentages are not given where there are less than ten individuals in a group.

It is not difficult to understand why so many accidents occur in the various walks of life, if so small a percentage of the population possesses enough vision to see accurately what is being done. In a paper published recently, the incidence of eye accidents had risen at the Norton Company, Worcester, Massachusetts, in September, 1922, to 0.145 per employee, which was reduced in September of that year to 0.06 following an eye-hygiene campaign.

While many contributions have been made in establishing the above facts, very little reference is found in scientific literature to the following up of these observations with an idea of preventing them. With this in mind, through the coöperation of the Electrical Testing Laboratories in New York, an opportunity was afforded in 1920 of examining their employees and checking up these workers every year thereafter. This laboratory was chosen because the work being carried on there is of a character usually considered to be productive of eyestrain.

The deductions drawn from the 1920 examinations were that an alarming percentage of the workers were laboring under the handicap of subnormal eyesight, that others were assigned to departments where the work was detrimental to vision and general well-being, and that a small group should never have been accepted for employment.

The workers in the 1920 group have been reëxamined in 1922, 1923, 1924, and 1925, and the table shows very plainly the marked decrease in the percentage that required subsequent treatment.

INCREASE IN PERCENTAGE OF NORMAL OR CORRECTED EYESIGHT DUE TO REGULAR EXAMINATIONS

	Number of Examinations	Per cent normal or with eyes properly corrected
New employees	117	33.0
Old, 1st examination	93	48.5
Old, 2d examination	66	57.5
Old, 3d examination	22	76.5
Old, 4th examination	6	87.0
Total	304	

When these examinations were instituted, many workers were apprehensive lest the discovery of eye defects would result in dismissal. When they realized that the physician aimed to help them by bettering their vision or by recommending transfer to work involving less eye effort, a splendid spirit of coöperation and readiness to report any eye complaint was shown. Workers registering complaints between the time of periodic examinations at the laboratories were treated at the office of the oculist.

No worker skilled or unskilled should be accepted for employment without an eye examination to determine his visual acuity. This observation, in view of the high incidence of defective vision, serves as a safeguard to the employer and employee. Routine eye examinations annually or every two years will eliminate the possibility of workers with inherited or acquired eye defects being assigned to tasks for which they are unsuited. Industrial concerns availing themselves of periodic eye examination will find a progressive decrease in the number of workers with subnormal vision and the complaints incident thereto, a better morale among their personnel, and a more efficient working organization.—DR. JAMES W. SMITH, *The Nation's Health,* November, 1925.

HOSPITAL ACTIVITIES

Rural Hospitals.—In 1918, Mrs. Stephen V. Harkness, of New York City, established what is known as the Commonwealth Fund, "for the benefit of humanity." The endowment now amounts to $38,000,000, with an annual income of $1,399,000. Child welfare has claimed much of the attention of the administration of this fund up to the present time. Recently, a division of rural hospitals has been established, and the first hospital to be constructed, under this division, is to be located in Farmsville, Virginia.

There is one condition which the community asking for aid from this fund is required to meet—one-third of the total expense for construction, and a provision for operating and maintenance costs, must be guaranteed by the county or community seeking aid from this endowment. No greater boon could be granted to a community or its physicians than that derived from the presence therein of modern hospital facilities.

Hospital Building Program for 1926.—Already, according to *Hospital Management,* 1,117 new hospital buildings have been planned throughout the United States for 1926. This immense program calls for the expenditure of $309,000,000. In Philadelphia alone, the Hahnemann, Pennsylvania, Philadelphia General, and Jewish Hospitals are engaged either in contemplation or construction of extensive additions to their hospital plants.

Women Interns.—An interesting sidelight on the place of the professional woman in the hospital field is gained from a controversy which has been under way at the John Seely Hospital, in Dallas, Texas. Two women, who will soon graduate from the medical department of the University of Texas, were applicants for internship in the above-mentioned hospital. There arose not a little objection to the woman as a hospital intern among one group of physicians, while another—no less influential—was of the opposite opinion. Whether women shall serve in the men's wards, especially those treating genito-urinary conditions, seemed to be the real question to be settled. The matter has finally been adjusted so that the women physicians in question will be excused from service in these wards.

In the Philadelphia General Hospital, the University Hospital, and the Woman's Medical College Hospital, in Philadelphia, women are accepted as interns. But in these hospitals the success of the plan has consisted in expecting and exacting from women the same type of service which is required of the male interns.

If women interns are to succeed in our hospitals, they must do (and it must be said that they are usually not only capable but willing) the same type and amount of work which is required of any physician.

The Hospital and the Radio.—Through the generosity of a Philadelphia manufacturer of radio outfits, and the coöperation of the Philadelphia Music League, a large number of sick people were recently made very happy in the above-mentioned city. Radio outfits were furnished many hospital wards, and the convalescence of many patients was made much less tedious by getting well the "radio way."

Has your hospital a radio, Mr. President of the Hospital Board? Look around and find a generous citizen who is only waiting to be asked to furnish one.

The Pennsylvania State Hospital Association.—This association will hold its annual convention in the Hotel Schenley, in Pittsburgh, April 13 to 15, inclusive.

Not only is an interesting and instructive program being provided, but an inspection of the exhibits of hospital supplies will repay one for attendance at this meeting.

New Hospital for Los Angeles.—Eight million dollars has recently been set aside for the erection of a new county general hospital, in Los Angeles, California. It will take ten years to complete this project.

Spiritual as Well as Physical Treatment.—The McKeesport Hospital, McKeesport, Pa., recently announced in the local papers a schedule of meetings of church workers which are to be held in this institution during the winter months. This schedule listed services by the various religious denominations for fifteen Sundays.

Diet Prescriptions and Economy.—The *Modern Hospital* as well as *Hospital Management* have printed in recent numbers instructive articles, urging the importance of careful dietetic prescribing by the physician.

It is regrettable, but true, that many physicians are not informed regarding the constituents of the various standard diets of their hospitals, and this fact leads to careless ordering of diets for their patients. As a result, food is ordered in inappropriate amounts and variety, and being unconsumed, finds its way to the institutional garbage pail. The physician can do much to promote hospital economy by ordering food with the same care as he does drugs.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.

Secretary

8014 Jenkins Arcade Building
Pittsburgh, Pa.

FEBRUARY MEETING OF THE BOARD OF TRUSTEES

The regular meeting of the Board of Trustees was held in the Society's building, 230 State St., Harrisburg, on February 2. In addition to acting on the reports of the standing committees of the Board, a report was received from the Special Committee appointed to confer with the Pennsylvania Board of Medical Education and Licensure and the Governor of the Commonwealth. This committee reported a conference with the Licensing Board in Philadelphia, and a later conference with Governor Pinchot, stating the object of both conferences, namely, the rescission of the former action of the Licensing Board in requiring of licensees of the National Medical Examining Board two years' actual practice before consideration for license to practice in Pennsylvania. The committee reported a favorable reception in both conferences, and expressed the belief that, as a result, the Pennsylvania Licensing Board would, in the near future, extend a more liberal policy toward licensees from other high-grade licensing boards.

The committee of the Board appointed to draft for presentation to the 1927 Legislature an amendment to the present medical-practice act reported considerable progress, and was by action of the Board instructed to continue its activities in conference with our Committee on Public Health Legislation.

As a result of the election to membership in a component society of a candidate who had previously proved an unsatisfactory member of more than one component society, the secretary was instructed to take the necessary steps to obtain for our component societies the benefit of the service available through the Membership and Fellowship Departments of the American Medical Association. The Secretary was also instructed to prepare a suitable amendment to the By-Laws, designed to prevent the election to membership of a candidate who had previously proved to be a discreditable member of another component society.

A report was received from the Chairman of the Commission on Compensation Laws, expressing the belief that a proper case had finally been secured to test the Mackey decision.

The Secretary was instructed to acknowledge receipt of the resolution adopted by the Elk County Medical Society regarding the annual registration law, reminding the Elk County Society that the Board of Trustees had approved of the law before its introduction into the Legislature, with the approval of the Medical Legislative Conference.

The members of the Board of Trustees met later in the day in conference with the Committee on Public Relations and the Committee on Scientific work, which held their meetings in the Society's building.

SCIENTIFIC EXHIBIT

The Scientific Exhibit in connection with the 1926 Session of the State Society will be under the supervision of a committee composed of Dr. Thomas G. Simonton, Pittsburgh; Dr. George A. Knowles, Philadelphia; and the Secretary of the Society. The Board of Trustees of the Society will provide space appropriately divided into attractive booths, with shelving and lighting, for acceptable exhibitors. It is to be hoped that the Scientific Exhibit in Philadelphia will be replete with material appropriately demonstrated to convey instruction in pathology, in laboratory methods, and in the technic of some of the newer methods of treatment.

EDUCATION AND HOSPITAL CONFERENCE

The 1926 Congress on Medical Education, Licensure, and Hospitals, held recently, brought together educators from many states of the Union and Canada. The program for the first day on problems in medical education was participated in by the presidents of the following universities: Alberta, Tulane, Iowa, Buffalo, Illinois, and Dalhousie, and two physicians—one the director of a medical college, and the other an official of a state medical licensing board. All taking part in the discussion gave full credit to the American Medical Association for the development of the present high standards in medical education, and placed with the Council responsibility for future flexibility and timely adjustment in the curriculum of the medical college.

Discussion of time-saving in education developed one suggestion for economy of the student's time during the elementary and high-school courses, and another for the saving of a year by avoiding repetition of instruction given in didactic lectures and by conducting the medical course in quarterly sessions, without vacation, except during the month of September.

HOME OWNERSHIP

Home ownership is as good for the morale and the community standing of a county medical society as it is for the individual citizen.

On March 4, 1925, the Fayette County Medical Society dedicated its newly built permanent home. The building, erected in connection with the Uniontown Hospital, is thus most appropriately situated, and adequately provides library and meeting-place facilities for the members of the society. It is said that the Erie County Medical Society is at present considering the adoption of a similar plan for the erection of a permanent home, and committees on permanent home have recently been announced by the Allegheny, Blair, and Lycoming County Medical Societies.

We are proud to unite the name of Fayette County Medical Society with that of Berks and of Philadelphia County Societies on the list of component societies owning their own homes. We trust that the list will grow rapidly, and that many of our component societies will thus impress the city and county in which their organization exists with the society's stability, influence, and prestige.

ITEMS OF INTEREST

The Pennsylvania Board of Medical Education and Licensure has rescinded its former action requiring licensees of the National Medical Examining Board to engage in actual practice two years after internship before applying for license to practice in Pennsylvania.

Under date of February 12, the Department of Education reports considerable delay in issuing 1926 registration cards to those practitioners of the healing art who have forwarded their credentials and remitted their fee. It is explained by the Department that there has been some delay in receiving supplies from the printer, and that there is considerable work, peculiar to the first year of operation under the new law, incidental to the checking of various records.

Members who have not paid their 1926 county-society dues should bear in mind that medical-defense benefits are not extended to those whose annual dues are not received by the State Society on or before March 31. Reinstatement is easily possible, but protection against suits for alleged malpractice can never be restored for the period from January 1 to the time of payment of the delinquent dues.

Any member of the Society threatened with suit for alleged malpractice should remember the necessity for immediate communication with the Councilor for the district, or the Secretary of the State Society. Our By-Laws require that application for defense must be made within seven days from the time summons has been served upon the threatened member.

Members of the Society called upon to treat fracture, dislocation, or foreign-body cases, should not fail to make use of the release blank which may be obtained from the Secretary for use in all instances where it is found impossible to obtain appropriate x-ray pictures. Such procedure may be of vital importance to the successful defense of suit for alleged malpractice based on the results of the treatment of the above-mentioned class of injuries.

The treasurer of the Berks County Medical Society has remitted $130 to the office of the Secretary, in return for which we have sent to each member of the Berks County Society a pad of one hundred periodic-health-examination blanks, a manual of suggestions for the conduct of such examinations, and a card to be hung in the physician's reception room. The officers of this com-

ponent society have, in a very logical manner, reasoned that the office patients of all the society's members should have an opportunity to "help themselves" to periodic-health-examination blanks, and if they so desire, after answering the questions on the history side of the blank, arrange with the physician of their choice for a health examination.

The Committee on Public Relations has arranged, through the Committee on Scientific Work, to present at Philadelphia during at least one of the fifty-five minute periods of the General Session program, important phases of periodic health examinations. The important part to be played by the general practitioner in forwarding this movement for preventing or delaying the onset of degenerative diseases of the circulatory system is now generally recognized, and soon the general practitioner will be expected, in the course of conducting such examinations, not only to point out early evidences of the diseases peculiar to advancing age, but also to be able to give advice leading to abounding good health in individuals who are not satisfied merely to avoid or postpone the development of old age.

J. W. Barr, M.D., the 1925 president of the Cambria County Medical Society, during his retiring address, in referring to the satisfactory disposal of three alleged malpractice suits recently threatened or instituted against members of his society, made the following statement:

"We point with pardonable pride to the fact that members of our profession, representing both our county and state societies, stood shoulder to shoulder for the rights of the physicians whom they believed to be innocent of the charges brought and to be the innocent victims of attempted blackmail. Each successfully defended suit means the institution of fewer such suits in the future. It is unfortunate, but none the less true, that many such suits have their origin in the adverse criticisms of fellow practitioners."

CANDIDATES FOR THE 1926 HONOR ROLL

On February 15, 1926, this office had received the annual assessment of 3,246 members; on the same day 1925, 2,563; on the same day 1924, 3,292; on the same day 1923, 1,930 members.

The percentage of 1926 dues received at this office February 15 from certain medical societies is herewith indicated: Clarion, 100%; Wyoming, 100%; Warren, 98%; Center, 96%; Elk, 95%; Columbia, 91%; Susquehanna, 90%; Union, 90%; Adams, 85%; Greene, 83%; Montgomery, 79%; Berks, 75%; Juniata, 75%; York, 71%; Delaware, 69%; Mercer, 69%; Mifflin, 68%; Potter, 67%; Lycoming, 66%; Northumberland, 66%; Cambria, 64%; Butler, 60%; Montour, 58%; Franklin, 66%; Schuylkill, 56%; Tioga, 56%; Somerset, 52%; Bucks, 50%; Lawrence, 50%.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since January 18th. Figures in the first column indicate county society numbers; second column, State Society numbers.

1925					
Jan.	25	Luzerne	270	7524	$5.00
Feb.	1	Northumb.	65	7525	5.00
	2	Venango	52	7526	5.00
	4	Philadelp'a	2058–2066	7527–7535 (5 ½ yr)	32.50
		Westm'land	147–148	7536–7537	10.00
1926					
Jan.	19	Mercer	12–13	898–899	10.00
	20	Delaware	49–54	900–905	30.00
		Center	2–7	906–911	30.00
		Venango	14–15	912–913	10.00
		Northumb.	16–26	914–924	55.00
	23	Elk	1–10	925–934	50.00
		York	55–60	935–940	30.00
		Center	8–13	941–946	30.00
		Juniata	7	947	5.00
		Mercer	14–17	948–951	20.00
		Somerset	9–19	952–962	55.00
		Clearfield	1–23	963–985	115.00
		Montgomery	81–100	986–1005	100.00
		Schuylkill	1–50	1006–1055	250.00
		Fayette	1–42	1056–1097	210.00
		Franklin	1–25	1098–1122	125.00
	25	Luzerne	1–49	1123–1171	245.00
		Mercer	18–19	1172–1173	10.00
		Huntingdon	13–14	1174–1175	10.00
		Elk	11–15	1176–1180	25.00
		Delaware	55–61	1181–1187	35.00
		Cumberland	1–12	1188–1199	60.00
		Armstrong	1–19	1200–1218	95.00
	27	Mercer	20–26	1219–1225	35.00
		Center	14–17	1226–1229	20.00
		Mifflin	14	1230	5.00
		Union	11	1231	5.00
		Columbia	28	1232	5.00
		Snyder	1–3	1233–1235	15.00
	28	Wyoming	11	1236	5.00
		Elk	16–19	1237–1240	20.00
		Center	19	1241	5.00
		York	61–72	1242–1253	60.00
		Dauphin	1–20	1254–1273	100.00
		Clarion	10–15	1274–1279	30.00
		Potter	10	1280	5.00
		Mifflin	15	1281	5.00
Feb.	1	Washington	1–44	1282–1325	220.00
		Cambria	39–67	1326–1354	145.00
		Erie	22–39	1355–1372	90.00
		Greene	18–24	1373–1379	35.00
		Somerset	20–22	1380–1382	15.00
		Union	12–13	1383–1384	10.00
		Northumb.	27–37	1385–1395	55.00
		Center	18	1396	5.00
	2	Bradford	16–19	1397–1400	20.00
		Adams	12–23	1401–1412	60.00
		Mercer	27–36	1413–1422	50.00
		Venango	16–18	1423–4125	15.00
		Greene	25	1426	5.00
		Lawrence	2–19	1427–1444	90.00

1926				
Feb. 2	Center	20–21	1445–1446	10.00
	Delaware	62–65	1447–1450	20.00
3	Mercer	37	1451	5.00
	Luzerne	50–79	1452–1481	150.00
	Somerset	23–24	1482–1483	10.00
	Montour	14	1484	5.00
4	Philadelphia	1–1001	1485–2485	5,005.00
	Cambria	68–80	2486–2498	65.00
	Juniata	8–9	2499–2500	10.00
	Dauphin	21–42	2501–2522	110.00
	Westmoreland	1–64	2523–2586	320.00
6	Clarion	16–19	2587–2590	20.00
	Clearfield	24–27	2591–2594	20.00
	Lawrence	20–34	2595–2609	75.00
	Fayette	44–65	2610–2631	110.00
	York	73–89	2632–2648	85.00
	Tioga	18	2649	5.00
	Franklin	26–30	2650–2654	25.00
	Mercer	38	2655	5.00
	Mifflin	16–18	2656–2658	15.00
	Venango	19–21	2659–2661	15.00
9	Berks	61–100	2662–2701	200.00
	Clarion	20–26	2702–2708	35.00
	Butler	1–29	2709–2737	145.00
	Schuylkill	51–75	2738–2762	125.00
	Delaware	66–67	2763–2764	10.00
	Mifflin	19	2765	5.00
	Mercer	39–48	2766–2775	50.00
	Center	22–24	2776–2778	15.00
	Cumberland	13–14	2779–2780	10.00
	Lycoming	52–72	2781–2801	105.00
	Union	14	2802	5.00
13	Northumb.	38–42	2803–2807	25.00
	Venango	22–26	2808–2812	25.00
	Elk	20	2813	5.00
	Cambria	81–100	2814–2833	100.00
	Mercer	49–50	2834–2835	10.00
	Susquehanna	1–17	2836–2852	85.00
	Montgom'y	101–119	2853–2871	95.00
	Lancaster	18–29	2872–2883	60.00
	Butler	30–32	2884–2886	15.00
	Huntingdon	15–17	2887–2889	15.00
15	Allegheny	201–503	2890–3192	1,515.00
	Northampton	49–60	3193–3204	60.00
	Blair	1–28	3205–3232	140.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to February 15:

Allegheny: *New Members*—J. E. Weigel, 1202 Monterey St., N. S.; Joseph A. Soffel, 123 Shiloh St.; Irene Davis, Highland Bldg., Pittsburgh; W. R. Morton, 400 Bessemer Ave., East Pittsburgh; Hyman E. Canter, 1712 Carson St., Pittsburgh. *Resignations*—John R. Brown, Hollywood, California; James M. Anderson, Sebring, Florida. *Death*—Harry L. Murphy, Pittsburgh (Georgetown Univ., '12), Feb. 17, aged 39.

Berks: *New Member*—Stephen W. Gryczka, 140 So. Ninth St., Reading. *Death*—William S. Long, Reading (Univ. of Penna., '13), Jan. 17, aged 39.

Blair: *Death*—Edwin B. Miller, Altoona (Jeff. Med. Coll., '06), Nov. 15, aged 42.

Bucks: *Death*—Erwin T. Johnson, Hilltown (Jeff. Med. Coll., '83), Jan. 17, aged 68.

Butler: *New Members*—Helen J. Cowie, Slippery Rock; Raymond L. Sheetz, Bruin.

Cambria: *New Members*—Paul E. Lavelle, Lilly; Stuart D. Scott, Box 246, Central City. *Transfer*—George C. Berkheimer, Windber, from Somerset County Society.

Clearfield: *Removals*—Samuel J. Morris from Houtzdale to Scranton (Lacka. Co.); Harry G. Shaffer from Grampian to Sykesville (Jeff. Co.). *Transfer*—Dennis E. Szabo, Hazleton, to Luzerne County Society.

Chester: *Deaths*—John W. Merryman, Kennett Square (Jeff. Med. Coll., '99), Oct. 7, aged 49; James B. Walker, Mendenhall (Jeff. Med. Coll., '92), Jan. 7, aged 58.

Cumberland: *Reinstated Member*—W. B. Stuart, Carlisle.

Dauphin: *Transfer*—Frederick L. Van Sickle, Harrisburg, from Lackawanna County Society.

Fayette: *New Members*—Henry S. Brown, Adah; Jesse Margolis, Mt. Braddock; Benjamin Halporn, Milton H. Cloud, Uniontown.

Franklin: *New Members*—George B. Davis, Blue Ridge Summit; G. W. White, Mercersburg.

Lawrence: *New Members*—Frank D. Campbell, Bessemer; B. M. Lawther, Ellwood City.

Lehigh: *Removal*—Dwight R. Sipes from Creighton to Everett (Bedford Co.).

Luzerne: *New Members*—Wilbur L. Hutchison, Main St., Conyngham; F. G. Tonrey, 242 Chestnut St., Kingston; George K. Swartz, Dallas; S. J. Silewski, Retreat. *Reinstated Member*—Stanley T. Monahan, Hudson. *Resignation*—Rosanna N. McKinney, Chicago (to become a member of Cook County Med. Soc.). *Death*—Dewees A. Huebner, Fern Glen (Jeff. Med. Coll., '86), Dec. 1, aged 63.

Lycoming: *Deaths*—Charles M. Adams, Williamsport (Bellevue Med. Coll., '88), Jan 21, aged 67; Charles J. Cummings, Williamsport (Coll. Phys. & Surg., Baltimore, '03), Jan. 28, aged 66.

Northumberland: *Transfer*—Adrian T. Griswold, 1211 W. Market St., York, to York County Society.

Philadelphia: *New Members*—Verne G. Burden, Medical Arts Bldg.; Francis S. Chambers, 262 So. 21st St.; Alexander C. Cohen, 1921 E. Dauphin St.; William I. Gash, 3145 Diamond St.; Edward S. Gifford, 1723 No. 16th St.; Burgess S. Gordon, 1832 Spruce St.; Frank W. Gulick, 2728 No. 13th St.; Francis S. Hickey, 2409 W. Lehigh Ave.; Jacob C. Lerner, 920 W. Rockland St.; David Metheny, 4302 Chestnut St.; Joseph Neff, 3143 Columbia Ave., Harry H. Prushankin, 3611 So. 84th St.; Samuel X. Radbill, 7043 Elmwood Ave.; Harold S. Rambo, Medical Arts Bldg.; L. M. Rankin, Walnut St. and Long Lane (Upper Darby); Forest M. Reid, 815 No. 13th St.; Max Schumann, 406 N. 40th St.; Marguerite C. Williams Scott, 735 So. 19th St.; Samuel S. Shapiro, 1412 No. 4th St.; Frances M. Sher-Sharpe, 2803 W. Girard Ave.; David H. Solo, 1602 Nedro Ave.; E. W. Spackman, 418 So. 43d St.; David Stein, 6023 Carpenter St.; William Steinberg, 1941 So. 9th St.; Isidor T. Strittmatter, Jr., 999 No. 6th St.; Henrietta T. Tanner, 419 Chew St. (Olney); John G. Taylor, 2222 So. Broad St.; Harry F. Tye, 2422 W. Lehigh Ave.; Morris W. Vaux, 1810 So. Rittenhouse Sq.; Thomas J. Vischer, 330 W. Mt. Airy Ave.; Stephen D. Weeder, 6110 Green St., Gtn.; Joseph L. Wiza, 4482 E. Edgemont St., Philadelphia. *Reinstated Members*—O. Fleisher Friedmann, 2124 No. 12th St.; J. Garrett Hickey, 4610 Chester Ave.; Charles A. Pryor, 247 So. 17th St.; Samuel L. Rubinsohn, 1530 Locust St., Philadelphia. *Transfer*—Jeannette H. Sherman, 1524 Medical Arts Bldg., Philadelphia, from Delaware County Society. *Deaths*—John B. Jones (Jeff. Med. Coll., '03), Jan. 14, aged 49; William M. Menah (Univ. of Pa., '90), Dec. 26, aged 58; S. Lewis Ziegler (Univ. of Pa., '85), Jan. 4, aged 42.

Schuylkill: *New Members*—Edgar E. Shifferstine, Coaldale; Adolph M. G. Neupauer, Pottsville; Charles V. Wadlinger, Port Carbon. *Transfer*—John J. Sweeney, Highland Park, to Delaware County Society. *Removal*—Guy A. Robinhold from Ashland to Auburn; Frank C. Bender from Minersville to 4224 Walnut St., Philadelphia.

Somerset: *New Members*—Russell A. Noon, Listie; Walter F. Johnson, Shanksville.

Venango: *Reinstated Member*—Sidney A. Slater, Worthington, Minn.

Washington: *New Members*—Aida Sloan, Washington Hospital, Washington; Martin J. Hannigan, 656 McKean Ave., Donora.

Westmoreland: *New Members*—Anthony C. Bonatti, Augustus Slagle, Thomas Ceraso, Vandergrift; William E. Errett, New Stanton; Paul G. McKelvey, Greensburg; William J. Salisbury, Yukon. *Reinstated Members*—William A. Marsh, Mt. Pleasant; Oscar B. Snyder, Greensburg.

York: *New Member*—F. L. C. Heikes, Dillsburg. *Death*—Harry B. King, York (Jeff. Med. Coll., '83), Jan. 24, aged 65.

COMMITTEE ON PUBLICITY

S. A. Brumm, *Chairman*
Philadelphia, Pa.

ATTRACTIONS OF THE PHILADELPHIA MEETING

Foreword

Your Publicity Committee for the Philadelphia Session of the State Society meeting to be held from October 11 to 14, 1926, takes great pleasure in presenting this initial communication to all the members of the State and County Societies. It is the first of a series of notices which will tell: (1) Why we have these annual meetings. (2) Of the advancement of medicine. (3) How to receive the greatest good from these conventions. (4) What is your solemn duty and obligation to promote the success of the meetings.

Philadelphia is surely the medical center of this State, and in fact, the imagination need not be strained to distinguish it as the hub of medical teaching in the nation. The traditions inherited from our forefathers as well as the achievements of their posterity have equipped us to fulfill the obligations we happily assume as hosts, and we cordially invite each of you who reads this communication to become our guest.

Hotel accommodations will be more than ample. The Committee on Scientific Work has outlined a program which will be considered a standard for years to follow. The exhibits will be a revelation, and pleasure will play no mean part. We in Philadelphia will leave no stone unturned to make the value of this meeting exceed any you have previously attended, and only the coöperation of our guests will be needed to make it a complete success.

The Sesqui-Centennial opens its gates this spring, and by fall it will be 100 per cent in operation. Naturally, it will become the Mecca of the country, beckoning votaries of art, literature, science, and industry—which will promote an atmosphere that no doctor will dare to miss.

Horace Greely said, "Go West, young man," but this wise philosopher forgot that art, science, and learning came out of the East, so the fall of 1926 will find all roads leading to Philadelphia.

COMMITTEE ON SCIENTIFIC WORK

Thomas G. Simonton, *Chairman*
Pittsburgh, Pa.

OUTLINE OF THE SCIENTIFIC PROGRAM FOR 1926

The Committee on Scientific Work, at its first meeting at Harrisburg on February 2d, decided on an innovation at the meeting to be held in Philadelphia, from October 11th to 14th, with headquarters at the Bellevue-Stratford Hotel. The new plan provides that each section will hold one dry clinic at one of the Philadelphia hospitals.

This decision was arrived at, first, because the section officers from Philadelphia were eager to have dry clinics included in the program, and second, because the quarters engaged at the Bellevue-Stratford Hotel could offer adequate accommodations for simultaneous meetings of only three sections.

The schedule of clinics as arranged, subject to slight modifications, will be as follows:

Tuesday, October 12—Section on Eye, Ear, Nose and Throat Diseases, at the Medico-Chirurgical Hospital, 2 to 5 p. m.

Tuesday, October 12—Section on Pediatrics, at the Children's Hospital, 2 to 5 p. m.

Wednesday, October 13—Section on Medicine, at the Philadelphia General Hospital, 2 to 5 p. m.

Thursday, October 14—Section on Surgery, at the Philadelphia General Hospital, 8 a. m. to 1 p. m.

The amphitheater at the Philadelphia General Hospital has a seating capacity of 300, and adequate accommodations are also available at the other hospitals.

The clinics are to be under the entire supervision of the section officers, and the cases will be presented by the members of the staffs of the hospitals where the clinics are held. In this way, the Philadelphia members will be represented in the section clinics, and the remaining periods will be reserved largely for those from outside the city.

The section officers will preside at the clinics, and a bell will announce the expiration of the time allotted for the presentation of each case—fifteen minutes. Those who take part in the programs will be warned of this time limit well in advance, and can blame only themselves if the alarm clock cuts short their remarks.

At the other section meetings, the feature of 55-minute periods inaugurated at the Harrisburg session last year will be retained, with the exception that 15 minutes of each period will be reserved for general discussion of the papers presented. At one General meeting and in the Medical, Surgical, and Pediatric Sections there

will be eight 5-minute case reports, with 15 minutes for general discussion; and in the Eye, Ear, Nose and Throat Section, there will be five 10-minute case reports, with 5 minutes for general discussion, as the Section voted at the last meeting in favor of this plan.

Another feature will be a public lecture by some eminent man—yet to be selected—in the Convention Hall of the Bellevue-Stratford, on Wednesday evening, October 13th, from 8 to 8:50, thus assuring a large audience for the speaker, and affording members of the Society an opportunity to hear him—which has not been the case when the public meeting was held on Thursday evening, after seventy-five per cent of the members were on their way home. The alarm clock again will act as the guardian of time during this lecture, as it must be over promptly at 8:50 so that preparations may be made for the President's Reception which follows at 9:30 p. m.

Each month from now on until the meeting, the section officers will outline the section programs in the columns of the Journal, with a view to stimulating interest in the various meetings.

The Committee on Scientific Work has asked the Board of Trustees for an appropriation of $300, which, if granted, will permit of the mailing to each member of the Society on September 1st, a folder presenting the completed program and the entertainment features, with the hope it will prove so attractive that the largest attendance in the history of the Society may be registered.

Reservations should be made now, as the headquarters hotel, the Bellevue-Stratford, has only a few rooms left unbooked for this meeting. There are plenty of good hotels in Philadelphia, however, so there is no reason why every one should not secure satisfactory accommodations if they are engaged promptly. Dr. Frederick S. Baldi, Chairman of the Committee on Hotels, Philadelphia County Medical Society Building, S. E. Corner of 21st and Spruce Sts., Philadelphia, Pa., will be glad to assist inquiring members.

Doctor, you will likely never forget October the 13th, 1926, if you are so fortunate as to be in Philadelphia attending the State Society meeting.

"If you're waking, call me early, call me early, Doctor dear;
For October thirteenth will be the most strenuous dav of all the glad New Year.
With its session, clinic, lecture, dancing, and the like,
Is it any wonder, Doc, that I'll be tired when comes the stillness of the night?"

CALL FOR VOLUNTEER CASE REPORTS AND PAPERS

FOR THE

PHILADELPHIA SESSION OF THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

OCTOBER 11 TO 14, 1926

GENERAL MEETING—8 Case Reports of 5 minutes.
SECTION ON MEDICINE—8 Case Reports of 5 minutes.
SECTION ON SURGERY—8 Case Reports of 5 minutes.
SECTION ON PEDIATRICS—8 Case Reports of 5 minutes.
SECTION ON EYE, EAR, NOSE AND THROAT—5 Case Reports of 10 minutes.

For publication in the ATLANTIC MEDICAL JOURNAL, the 5-minute case reports will be limited to 1,000 words, and the 10-minute case reports to 1,500 words.

In the General Meeting and Sections on Medicine, Surgery, and Pediatrics, 15 minutes will be allowed for general discussion of these case reports, and 5 minutes for discussion in the Eye, Ear, Nose, and Throat Section.

Volunteer papers, with the titles and abstracts, will be considered by the Committee on Scientific Work on or before May 1, 1926, but the Committee reserves the right to reject a paper if it is not deemed of sufficient merit, or should it not fit in with the skeleton program tentatively planned at its February meeting.

Authors of papers and case reports should send in their titles and abstracts at once to the secretary of the section in which they want to appear, or to the Chairman of the Committee on Scientific Work.

GENERAL MEETINGS: Dr. Thomas G. Simonton, 121 University Place, Pittsburgh, Pa.
SECTION ON MEDICINE: Dr. W. W. G. Maclachlan, 200 S. Craig St., Pittsburgh, Pa.
SECTION ON SURGERY: Dr. Albert F. Hardt, 414 Pine St., Williamsport, Pa.
SECTION ON EYE, EAR, NOSE AND THROAT: Dr. Robert F. Ridpath, N. E. Corner 18th and Chestnut Sts., Philadelphia, Pa.
SECTION ON PEDIATRICS: Dr. Z. R. Scott, Westinghouse Bldg., Pittsburgh, Pa.
SECTION ON DERMATOLOGY: Dr. Joseph V. Klauder, 1934 Spruce St., Philadelphia, Pa.

STATE MEDICAL SOCIETY MEMBERSHIP

The following is taken from the President's Page of the *Ohio State Medical Journal* for January, 1926. "Does each member realize what a tremendous power is accrued when united for action in the State organization? Membership alone is not sufficient; membership must be active to be influential. The officers of the state association are expected to defend the profession against encroachment by those who would destroy us. The officers with their strategy can only lead in the defense; the membership must bear the brunt. The officers come, do their bit, and go; but remember, after all, the permanent employes are the mainstays in the routine work of the association."

County Society Reports

ALLEGHENY—JANUARY

The stated meeting was held January 19, 1926, at 4:30 p. m.

Two cases of tularemia were described by Drs. W. W. G. Maclachlan, W. J. Fetter, and A. R. Cratty, who claim that these are the first reported in Pennsylvania. Tularemia is a disease of rodents, especially wild rabbits, and is fatal to that group. Man is occasionally infected. It is rarely fatal, but runs a severe course with delayed convalescence. It is one of the few diseases discovered in the past fifteen years in which a knowledge of the infection has been contributed by American investigators. Experimental work done by Francis and his workers proved that it was transmitted by the deer fly (Chrysops discalis), from rabbits to man. They proved that the infection was carried by ticks infesting wild rabbits, and reproduced the disease in laboratory animals, such as guinea pigs and tame rabbits, by bites of lice, bedbugs, and ticks. They showed that the deer fly carried the viable organism for fourteen days. Infection must enter the tissues directly, and there is no record of infection by man to man. They showed that the organism can penetrate through the unbroken skin of the guinea pig, infecting it.

Bacteriology.—The organism is a small bacillus of the influenza type. It is Gram-negative and difficult to grow, requiring special media. McCoy used egg-yolk medium, but it will grow on serum-glucose agar, blood-glucose agar, or plain blood agar, and fresh rabbit-spleen media. It is rarely found in circulating blood of the human, and when found, the prognosis is very serious.

Pathology.—The skin, lymph nodes, liver, spleen, and lungs show the most changes in animals autopsied. No record of a human autopsy is available. The skin shows acute, ulcerative lesions, from which the bacillus can be recovered in the dilated lymph spaces. There is a marked polymorphonuclear infiltration. Lymph nodes show endothelial proliferation in the sinuses, and focal coagulation necrosis in the germ centers. Nodes may coalesce and suppurate. The lungs reveal a bronchopneumonia, multiple hemorrhages, and coagulation necrosis, with the bacilli in the necrotic areas, and a marked polymorphonuclear infiltration. The spleen is subject to coagulation necrosis, with or without polymorphonuclear infiltrations, and the bacilli are found in the endothelial cells of the lymph spaces. There are two types of this disease—the glandular and the typhoid types.

Case 1.—Male, aged 49, butcher, was admitted to hospital because of cough, fever, and weakness. Onset began November 24, 1925. There was a history of cutting the right index finger while cleaning rabbits. Two days later, illness developed, together with a painful finger. For 15 days he had a nonproductive cough. Anorexia was marked. Frequent attacks of chills and fever were present, with general body pains.

Examination showed the patient to be quite ill. There was a scar on the right index finger, and nodular enlargement of the right axillary glands. Other glands and lymph nodes were normal. There were few râles in the chest. The temperature averaged 102.2° F. The laboratory findings were negative. On the 19th day, the temperature was normal. On the 24th day, the axillary glands had decreased one half in size. Blood was sent to Dr. Francis, of the U. S. Public Health Service, and found positive 1-640 for agglutination against Bacterium tularense. This blood was withdrawn on the 17th day.

Case 2.—Male, aged 35, poultry dealer, became ill on November 25, 1925, with symptoms very suggestive of those seen in the influenza epidemic of 1918. On December 3, a severe epistaxis developed. The symptoms cleared up under symptomatic treatment. On December 8, a small ulcer developed at the base of the left small finger. The subjective symptoms reappeared and were associated with delirium. The entire hand became red, swollen, and a heavy desquamation was present. The ulcer healed, leaving a scar. The epitrochlear and axillary glands were swollen. On December 14 conjunctivitis developed (not thought to be due to tularense infection because of delayed appearance). Blood serum was taken which gave a positive agglutination 1-1280 for B. tularense. Convalescence was slow, with 18 pounds' loss in weight. The rabbits handled were shipped from Ohio. The treatment was symptomatic, as no specific treatment has been discovered.

Discussion by Dr. Cratty.—The onset favored la grippe with symptoms not unlike those during the influenza epidemic. The condition cleared up, but recurred with greater severity. The febrile reaction and chills were severe, and a marked delirium was present. The patient had been treating the "initial lesion," thinking it was a boil, by taking yeast. The history of handling rabbits and the development of the ulceration were suggestive of tularemia. The frequency of this disease is probably overlooked. The treatment is not anesthesia is reduced to a minimum thus lessening the la grippe must be closely differentiated from this uncommon condition.

The Practicability of Tonsil Coagulation by Diathermy: Dr. G. A. Dillinger.—A tonsillectomy should be so devised that the duration of the operation and anesthesia is reduced to a minimum, thus lessening the shock and risk of absorption or aspiration of pathogenic microörganisms. Tonsillectomy under ether anesthesia does not give the patient the best possible chance for safe and complete recovery; hence one must look for a more satisfactory procedure. No tonsil should be removed unless one can prove beyond doubt that it is causing actual systemic infection. The results from tonsillectomies in children are not what have been promised the parents.

In choosing means other than operation we must consider x-ray, radium, and diathermy. The x-ray work of Murphy, Witherbee, Craig, Hussey, and Strum, of the Rockefeller Institute, proved that a definite diminution in the size of the tonsil could be brought about, and that with atrophy there occurred a disappearance or lessening of the exudate and bacterial flora, especially in the case of the Streptococcus hemolyticus, but they could not prove the tonsil entirely sterile.

Wells, in 1921, demonstrated that radium caused an atrophy, almost to the extinction of the tonsil, and all germs were killed. Objections to radium advanced are: taking it for granted that properly prepared needles are placed in the tonsils, one can not be absolutely sure as to the extent of the necrosis that will result. We know there is a radius of 4 mm. of absolute destruction, and another 4-mm. radius of extensive severe inflammation, and then inflammation beyond that. One cannot limit the area of destruction, and all factors cannot be controlled.

Before referring to diathermy, the author mentions the following objections to tonsillectomy: pneumonia following general anesthesia; hemorrhage and shock;

secondary infection; trauma, edema, and scar-tissue formation; embolism; and lung abscess (postoperative).

Diathermy is a safer and simpler procedure, but is not foolproof, and without proper anatomical knowledge can produce annoying results. Surgical diathermy is produced by two electrodes; a large indifferent electrode in contact with the patient's body, and the small active electrode, which is the needle in the hands of the surgeon, and when he makes contact with the tonsil, the speed of the current met by the resistant tissues of the tonsil sets up a high degree of heat. There is instant dehydration, and in one second more, coagulation. At this point, a white ring appears around the needle, and this is an indication to shut off the current.

The advantages of diathermy are: only a few seconds are required for treatment; local anesthesia (10% cocain) is sufficient; it is an office procedure; no secondary hemorrhages, pneumonia, infections, or emboli are encountered; and it completely removes and sterilizes the tonsil.

L. G. Beinhauer, M.D., Reporter.

BERKS—JANUARY-FEBRUARY

On January 12th, Dr. John H. Stokes, Professor of Diseases of the Skin, University of Pennsylvania, addressed the society on "Overlooked Diagnostic Clues." He pointed out that many of the most valuable hints as to the nature of a patient's ailment are found only by thorough examination of the entire body. Many diseases can be identified in this way without the aid even of laboratory tests. The patient at times does not give his physician the best coöperation because he objects to the complete inspection of the entire body, feeling that the trouble is confined to the particular part which seems to be affected. Lantern slides illustrated apparently trivial lesions of the hands and feet, arm, face, scalp, hair, lips, teeth, mouth, or tongue, which are easily overlooked in a hasty examination, and about which the patient may not complain since they are associated with no pain or discomfort.

About one hundred attended the annual banquet, which was held in the evening at the Wyomissing Club.

On February 9th, the Society was addressed by Mr. Joseph Hasbrouck, president of the Penn National Bank, of Reading, on the subject "Gambling, Speculating, and Investing." A brief synopsis of the financial history of our country and its relation to the individual citizens formed the basis of the discussion. Mr. Hasbrouck showed that many well-meaning people really gamble when they believe they are speculating, and that very few people can afford to gamble. He demonstrated that speculation has a very definite place in our economic life, and if scientifically exercised, it can and does perform a useful purpose in developing our natural resources. Successfully to speculate requires close study of all natural and economic laws, as well as a knowledge of human psychology. Very few have the time, learning, and patience to enter this field, and even though thousands think they are speculating, they are really gambling, because their action is not based on scientific research and study.

What, then, is the safe course to pursue in putting your surplus earnings to work? You should seek out a reliable security house and a trustworthy security salesman; then go to him and confide in him. Tell him your plans frankly, and follow his advice. Then, say once a year, have his work reviewed by a disinterested party. Several statistical bureaus will do this at a remarkably low cost. A high-grade salesman selling high-grade securities cannot afford to spend several hours calling on you, with only a hope that he may sell you one or two bonds. Yet you can get this same man's services without extra cost, if you will but go to him.

Pithy Points About Investing Wisely

Have a definite policy based on carefully considered plans, and stick to your plan.

Be sure you are investing, and not speculating or gambling.

When you take a "tip" almost always you are gambling on some fellow's opinion, which you could not even buy if it had a real value.

Few people have the time or patience to study economic conditions, which is the price that must be paid for a successful speculation.

Always place yourself in the position of a secured and preferred creditor, and avoid being a partner under the name of "stockholder."

Clara S. Keiser, M.D., Reporter.

CUMBERLAND—JANUARY

The annual meeting of the Society was held at Wormleysburg, January 12, at 8 p. m. The election of officers for the present year resulted as follows: President, C. R. Rickenbaugh, Carlisle; first vice-president, J. B. Spangler, Mechanicsburg; second vice-president, H. H. Longsdorf, Carlisle; secretary, R. R. Spahr, Mechanicsburg; and treasurer, Ambrose Peffer, Newville.

The address of the evening was given by Dr. E. M. Green, State Hospital, Harrisburg, his subject being, "Legal Commitment of Insane Patients." The meeting was preceded by a dinner.

Richard R. Spahr, M.D., Secretary.

FAYETTE—DECEMBER-JANUARY-FEBRUARY

The December meeting was held in Uniontown Hospital. Dr. William A. McHugh, of the surgical staff, addressed the meeting on "Some Abdominal Emergencies from a Surgical Viewpoint."

At the January meeting, the following officers were elected for 1926: President, Dr. J. W. McCracken, Smithfield; secretary-treasurer, Dr. George H. Robinson. Dr. George L. Hays, of the surgical staff of Mercy Hospital, Pittsburgh, discussed the subject of "Pneumatic Rupture of the Bowel."

Two papers of unusual interest were read at the February meeting.

Dr. H. E. Ralston, of the surgical staff of Uniontown Hospital, presented the subject of "Intestinal Obstruction." He laid stress on the importance of early recognition, prompt surgical intervention, and the pernicious effects of thoughtless administration of cathartics. Six cases were reported, showing some of the causes of obstruction and the final results in each case. The mortality rate was in direct ratio to the time elapsing between the onset of symptoms and the time of operation. The shorter the time, the lower the mortality.

Dr. C. Franklin Smith, of Uniontown, read a paper on the subject of "Embolism." He detailed the difference between pulmonary embolism and embolism in other parts of the body. The symptomatology naturally depends upon their location. The more highly organized the tissue invaded, the more serious the outlook. Im-

provement in any case depends upon establishment of collateral circulation. A slight fever not otherwise accounted for may mean embolism. Many cases of death from obscure causes are really due to embolism.

Harry J. Bell, M.D., Reporter.

LEBANON—FEBRUARY

At the meeting on February 9th, Dr. Joseph V. Klauder, of Philadelphia, showed a large number of slides illustrating his very interesting talk on lesions of the skin. In addition, he presented a patient in person for whom he had removed a very extensive birthmark of the face. The result in this case was excellent, because only a small scar resulted. The method used was electrocoagulation by the bipolar method. The mass of necrosed tissue was then curetted away, and the wound dressed with Labarraque's solution.

In discussing ringworm, Dr. Klauder said that while everybody recognizes the ordinary case, ringworm of the axillæ and the feet does not present the usual appearance. This was demonstrated by lantern slides. The address was closed by views of the different types of syphilitic lesions.

John D. Boger, M.D., Reporter.

LEHIGH—JANUARY-FEBRUARY

At the annual meeting on January 12th, the following officers were elected: V. J. Gangewere, president; G. S. Lawall, first vice-president; T. W. Cook, second vice-president; J. T. Butz, secretary; W. D. Kline, treasurer; A. F. Gerberich, librarian; H. L. Baker, reporter; C. H. Schlesman, C. H. Muschlitz, and P. C. Shoemaker, censors.

The yearly dinner and dance held in the evening was attended by fifty couples.

The February 9th meeting was devoted to a symposium on fractures of the skull. "Anatomy" was discussed by Dr. F. S. Boyer; "X-Ray Evidence," by Dr. T. L. Smyth; "Eye and Ear Symptoms," by Dr. F. B. Harding; and "Clinical Symptoms," by Dr. W. A. Hausman, Jr.

The March meeting will be held on the 9th, at the Elks Club, Allentown. Prof. John A. Kolmer, of the Graduate School of the University of Pennsylvania, will be the speaker.

LUZERNE—JANUARY-FEBRUARY

The meeting on January 6th was held in the Society Building, with President P. P. Mayock in the chair. Committee appointments for the year were announced.

A measles epidemic existing in Wilkes-Barre and environs at this time aroused open discusson. Dr. Harry Smith raised the question whether under the circumstances it is wise to allow children from a household where there is measles, to attend school simply because they can show proof that they have had the disease. Dr. C. L. Shafer replied that, even though the ruling of the State Advisory Health Board allowed school attendance by such children, in Kingston Borough the local health board forbids school attendance by children from households where there is measles, whether such children have had measles or not. Statistics in Kingston show the incidence of measles in children of school age to be highest in those of the first, second, third, and fourth grades, respectively. Dr. G. A. Clark, City Physician, thought the actual number of cases to be greater than reports show, that the physician in times of epidemics is overtaxed, and tends to forget to report cases he has seen. Dr. E. W. Bixby, representing the Department of Public Health, expressed the opinion that the Kingston Board was within its right in modifying the recommendations of the State Advisory Board if local conditions and the exigencies of the situation demanded it, and if the public welfare was the more guarded by such action. He thought the present epidemic due to the mine strike and the need of people retrenching. There is a tendency to disregard illness and not call the doctor. In addition, the number of reported cases would be larger were it not for this factor.

Dr. F. B. Eveland defended the family doctor and said it is the attitude of the people themselves which accounts for many cases being unreported. When the physician is called to a case of contagious disease, he meets a family which expects of course that he will not report whatever he may find there.

Acute Intestinal Obstruction: S. P. Mengel, M.D.—This is one of the most serious conditions that the medical profession is called upon to relieve. It demands immediate and proper surgical intervention, or the mortality will be one hundred per cent. In some abdominal conditions it is wise to wait; in intestinal obstruction, *never*. The higher the obstruction, the more severe will be the symptoms and the more rapidly fatal the disease. The prognosis for recovery is in direct ratio to the time when the condition is recognized and proper surgical relief afforded. Late operative relief is directly the cause of high mortality. Anything over 10% is the mortality of delay. Much good could be accomplished by the correction of the misleading way in which the textbooks confuse the late with the early symptoms.

Paroxysmal pain is usually the first symptom. This is followed by obstipation and then usually by nausea and vomiting. Neither enemata nor gastric lavage relieves the symptoms. With beginning intoxication, there is a fall in blood-pressure. Visible peristalsis, tympanites, and abdominal distention are late symptoms of intoxication, and usually presage death.

Every case should be given the benefit of an operation regardless of its duration and the severity of the symptoms. Obstructions following operative procedures are serious complications. If occurring early, reoperation may be through the original incision; if occurring four to five days after the first operation, a new incision should be made. Local anesthesia is preferable, as it is in all cases seen late. Morphin should not be used until a positive diagnosis can be made, and consent of the patient for immediate operation secured.

Enteroclysis should not be practiced until 24 to 36 hours after operation where enterostomy has been done. Fluids should be pushed by hypodermoclysis and intravenously. Eserin and strychnin should be used for postoperative distention, but not pituitrin.

Cases of appendicitis are coming to the surgeon at a later period since the medical profession has stopped talking and writing about appendicitis, thus tending to increase the incidence and mortality of appendiceal abscess. The same is true of acute intestinal obstruction, which is the reason why we should hear more about it.

Dr. Croop: Every case of acute intestinal obstruction should be given the benefit of early operation. Pain is the most common early symptom, and every case of acute abdominal pain with shock should be considered acute intestinal obstruction or acute pancreatitis.

Dr. Ahlborn: We have been doing more and more abdominal surgery in the past few years, the increase starting thirty years ago. As more and more people

open abdomens, there are more and more chances for abdominal adhesions. Every surgeon doing hospital work will find abdomens opened subsequent to previous operation to show adhesions. I think adhesions to be one of the greatest causes of obstruction at this time.

Dr. Gibby: The most frequent kind of obstruction is that following previous operation. A case which has had abdominal operation and develops these symptoms should be considered a very suspicious case. The intermittent pain is important. A case presenting it should be considered suspicious until proved otherwise. Surgeons are somewhat to blame for lack of care in handling abdominal contents. In the last few years, there has been increasd use of chemical disinfectants for the skin which are irritant, and if the bowels come in contact with these at operation, adhesions are apt to follow. Rinsing the surgeon's hands in bichlorid solution and introducing them into the abdomen without rinsing them in water also predisposes to adhesions. My warning is particularly to the surgeon to take every precaution to prevent irritation of the abdominal contents.

Dr. Stewart: There is no doubt that many of these cases of obstruction come after operation. A woman eight months pregnant was taken with a sudden pain. The diagnosis was obstruction. Operation was done within twelve hours. We lifted the uterus out and found the adhesion high up under the hepatic flexure. We resected the bowel and did an anastamosis, then did a cesarean, replacing the uterus and closing with drainage. The patient recovered nicely. She had had a previous operation, I think a suspension, which had not disturbed the upper abdomen, and yet this latter was the site where the obstruction occurred. It is interesting that she subsequently bore a living child.

Dr. Meyers: Of symptoms in babies, certain are worth emphasizing. In intussusception in babies, there is a symptom not found in other forms. The examination by finger per rectum will invariably disclose a mass, usually in the right iliac fossa, that is not firm, but feels somewhat of the consistency of a nonpregnant uterus. There will be a history of swallowing a foreign body followed by diarrhea, then the evacuation of the contents of the rectum with blood and mucus. This is rather specific of intussusception in babies. The symptoms in the adult are not masked. In the child they are. We are not so ready to operate on a child as we are on adults, and yet the baby should be operated upon just as quickly.

The forty-second annual banquet, held January 20th, was the most largely attended of the society's history, 115 members and guests being present. The retiring president, Dr. S. M. Wolfe, acted as toastmaster. Dr. Wilmer Krusen, Director of Public Health, Philadelphia, was the guest of honor, and spoke on "The Doctor in Literature." Other addresses were by Dr. Walter Lathrop, Hazleton, on "Looking Backward," and Dr. Lewis H. Taylor, Wilkes-Barre, on "Ten Years and More." Dr. F. J. Bishop, of Scranton, councilor of the district, brought the greetings of the State Society.

At the regular meeting on February 3d, President Mayock presided. Dr. Michael Jancovicz, of McAdoo, Schuylkill County, was elected to membership.

Dr. Louis A. Dessen, Hazleton: The X-Ray Diagnosis of Gall-Bladder Diseases by the Halogenated Phenolphthaleins (illustrated with lantern slides).—The principle of introducing opaque substance into body cavities to facilitate roentgenography has been applied to roentgenography of the gall tract. Sodium tetrabromophenolphthalein and sodium tetraiodophenolphthalein are used, according to the technic of Dr. E. A. Graham of St. Louis. They are given by mouth, or injected intravenously. They are excreted by the liver, and have an affinity for bile. Being opaque to roentgen ray, they outline the gall bladder. Stones can be diagnosed if present. An opaque mixture given by mouth subsequently enables us to determine the relation of the gall bladder to the stomach, duodenum, and intestines. Cholecystitis is diagnosed by the capacity of the gall bladder for filling, and the time taken for emptying, inflammation delaying the emptying time. Experimentally, by the use of these dyes, it has been determined that a meal rich in fats empties the gall bladder more rapidly than does magnesium sulphate through the intraduodenal tube. Advanced cardiovascular disease contraindicates the intravenous use of the dyes, while obstruction at the pylorus contraindicates their use by mouth.

Dr. Rogers: The oral method of administration is now improved, since a change has been made in the coating of the pills used. The current literature is swinging more toward the oral method. Is all of the dye excreted, or cannot some microscopic particles be left as a nidus for later formation of stones?

Dr. Rynkiewicz: I believe the oral method will supplant the intravenous.

Lewis T. Buckman, M.D., Reporter.

MIFFLIN—FEBRUARY

President O. M. Weaver presided at the meeting held on the 4th at the Coleman House, Lewistown. There was a good attendance. A strong protest was voiced against the new Registration Act which requires the annual registration of all doctors, at one dollar per. The Mifflin County doctors believe that the act will not accomplish that for which it is said to be intended—the fighting of illegal practitioners. It was noted also that not a single doctor was as yet in possession of the registration card without which it is illegal for any doctor to practice in Pennsylvania. Hence, the opinion was expressed that the Act was only one more unnecessary law to add to the many that now uselessly burden physicians. Elk County Medical Society was commended for its resolutions of protest against the registration law.

Dr. J. G. Koshland, of Lewistown, read a paper on the subject, "The Relation of the General Practitioner to Diseases of the Eye," in which he said that the general practitioner must have some knowledge, not only of symptoms peculiar to diseases and injuries of the eye, but also of the eye's participation in general disease. Patients are referred, as a rule, because of poor vision or pains in the head. Pain due to refractive errors usually appears in the eyeballs and is supra-orbital, less often temporal and occipital, and is relieved by sleep and eye rest. Eye imbalance causes panorama headache, and nausea. Pain due to the eyes must be carefully distinguished from sinusitis, glaucoma, and iritis, the two latter causing severe frontal and temporal pain, and both requiring careful diagnosis because, in glaucoma, atropin is contraindicated, whereas in iritis it is very necessary. Glaucoma, acute or chronic, always means a disordered metabolism unless it is secondary to traumatism, and requires extreme care in examination, so that it may not be mistaken for a "bilious attack." Iritis, unless traumatic, demands examination for syphilis, tuberculosis, gonorrhea, or focal infection.

Methods of examination in eye injuries and removal

of foreign bodies were discussed, and the advice given that such treatment should always include the use of argyrol or some other antiseptic to prevent ulceration. Perforating injuries should be cleansed, atropin used, the eye bandaged, and the case then referred to an eye specialist. Small pieces of steel may perforate the iris and be concealed behind it, and may be so minute that even the x-ray will not reveal their presence. Such bodies should be tested for by the magnet. Contusions and severe head injuries may seriously injure the choroid and retina, with no external evidence.

Abnormalities of the nervous mechanism of the eye include the Argyll Robertson pupil, which is indicative of spinal syphilis. Pupils unequal in size, with good reflexes, as a rule mean errors in refraction with no pathology. An immobile pupil in an eye that sees means oculomotor nuclear trouble, and suggests syphilis. Persistent diplopia means ocular-muscle paralysis, central or peripheral. The position of the nucleus in the floor of the fourth ventricle is the reason for the frequent appearance of eye symptoms in brain disease or injury. Choked disk is an early symptom of brain tumor. Paralysis should not be confused with squint, there being no persistent diplopia in the latter. The fusion center is developed at the age of six years, and hence squint cases should be referred to the ophthalmologist early. A squinting eye progressively loses what function it may have. Temporary squints may occur in debilitating conditions.

Syphilis may involve any part of the eye structure (interstitial keratitis, deafness, and Hutchinson teeth are a convincing trio). Phlyctenular nodules in the tuberculous and in ill-nourished children are common. Acute nephritis of scarlet fever may temporarily affect the retina in the early stages. In chronic nephritis and diabetes, the eye affections are late symptoms. The optic nerve may be badly damaged by sinusitis—usually sphenoiditis—and vision may be badly impaired unless these cavities are aërated. Atrophy of the optic nerve is frequently syphilitic and progressive. All of the acute contagious diseases may injure the choroid on account of its rich blood supply. Emboli in retinal arteries are destructive because these arteries are end arteries, and such cases are suggestive of valvular disease of the heart.

Pink eye (due to the Koch-Weeks bacillus) and conjunctivitis due to pneumococci are similar. Both are violent infections, run a strong two weeks' course, and clear up suddenly. Cold applications, boric acid, and argyrol are indicated early. Later, heat and zinc sulphate are helpful. Gonorrheal ophthalmia is becoming rare because of the prophylactic treatment. Chronic conjunctivitis may be caused by eye strain, irritants, and an infected tear sac, and systemic infections, especially intestinal toxemias. Zinc sulphate should be used locally. An effort should be made to find the cause, and in eyes chronically red, chronic inflammatory glaucoma should not be ignored.

Facial paralysis with an unprotected cornea causes an ulcerated eye such as is often found in Bell's palsy. If it is of central origin, the power to close the eye is but slightly affected. In such cases, both general and ear examinations are indicated. The opposite condition, ptosis, may be congenital, as in absence of a muscle, but is ordinarily combined with other signs of oculomotor paralysis.

Nystagmus, except in cases due to scars, errors of refraction, and retinal deficiencies, is due to functional or organic irritation of the oculomotor center; also to labyrinthine disease.

Dr. Koshland went into considerable detail regarding the eye findings and treatment in cases of most interest to the general practitioner, and showed definitely that close coöperation is necessary between the family physician and the ophthalmologist.

F. A. Rupp, M.D., Reporter.

PHILADELPHIA

January 13, 1926

Address by the Retiring President: Arthur C. Morgan, M.D.—During the past year an amendment to the by-laws was passed making dentists in good standing eligible to associate membership. There is promise of a goodly increase in this direction during the coming year.

A proposed amendment to the by-laws, providing for eligibility to associate membership of graduates in pharmacy in good standing, is now before the Society for action.

The Committee on Control of Cancer has performed an immense amount of work during the past year. A bureau of speakers of over eighty physicians has been organized, the list being available at the office of the Executive Secretary, so that, even on short call, a suitable speaker can be provided for a meeting where it is desired to present any phase of this important subject. The committee has had printed 10,000 copies of a pamphlet, "Suggestions to All Physicians for the Fight Against Cancer," compiled by its chairman. The committee also secured 180,000 copies of the pamphlet "Destroy the Weed," from the New York Society for the Control of Cancer, which were distributed to teachers and pupils of the advanced grades of the public schools of Philadelphia.

The Radio Broadcasting Committee has been considerably hampered in its efforts to secure papers for presentation, perhaps the chief reason being the action taken by the Society some months ago not to permit the publication or announcement of a member's name when he gives a radio talk. At the business meeting held November 18th, the motion not to publish names of readers was rescinded.

The Woman's Auxiliary of The Philadelphia County Medical Society is now well organized.

We desire to emphasize strongly the need and to recommend that the necessary amendment to the by-laws shall be made to require that a candidate for the high office of president of this Society shall have served either as a vice-president or as a member of the Board of Directors for at least one year before being eligible to election.

The new home will provide a meeting place for all Society activities, will house the executive offices of the Society, the archives, the library, afford a meeting place for boards, officers, committees, the Woman's Auxiliary, and offer a central meeting place for our members.

January 27, 1926

The president, Dr. Moses Behrend, in the chair.

Symposium on Gastric and Duodenal Ulcer

Dr. Arthur Bassler, New York City (by invitation): Medical Aspect.—There is no part of internal medicine less known than the etiology of disorders of the stomach, and this is easily explained by our ignorance of its function and the pathology of gastric diseases. Of diagnosis and treatment much has been learned, but the etiology is still unknown, and controversy is rife. Whether caused by a submucosal infection, a local disorder in the blood vessels, a disturbance in the forma-

tion of gastric acid, trauma, or any one of a number of other possibilities, still remains a question. An attempt to digest records from fourteen hundred cases gathered from three hospitals proved impossible because of the profuse and inaccurate data afforded in them. Up until a year or so ago, any case with hemorrhage from the stomach or shock followed by melana was diagnosed at the hospital as ulcer, and the patient referred to the surgical ward as an emergency.

There are, however, cases other than ulcer which show hematemesis, and all should at first be considered medical and given careful and conservative study. Since the mortality rate is not over 4% it does no harm to wait. The patient should be given rest of body, mind, and circulation by the administration of morphin. He should be kept warm, with no food or fluid for twenty-four hours, then given iced gelatin water, later a fluid diet, then lavage with ice water and one to two drams of adrenalin. Transfusion or intravenous saline injections are unnecessary unless operation is anticipated, and coagulants are of doubtful value.

Bleeding from the stomach may occur in ulcer, in varicosities, arteriosclerosis, carcinoma, hemorrhagic gastritis, disturbances of the portal circulation, splenic anemia, cardiac disease, blood dyscrasias, vicarious menstruation, etc. Diagnosis of affections of the upper abdomen has so improved of late that peritonitis is becoming less common than heretofore, but a perforation must always be watched for. The clinical picture of an acute perforation resembles that of a penetrating gunshot wound—collapse, pallor, prostration, and pain at the onset and continuously thereafter. The subacute and chronic forms are rarely seen. A diagnosis of this condition is more frequent than its actual existence, and ulcer is frequently confused with cholecystitis or appendicitis. Accurate diagnosis is difficult in a large proportion of ulcers of the stomach, but is easier in duodenal ulcers. If, however, dissolution of the gastric mucosa means an ulcer, there are many more than are seen. The Einhorn string test is of little value, being accurate in only about two thirds of the cases. It is negative in cases of large perforating ulcers. X-ray diagnosis, alone, is not safe, since the stomach is large and the ulcer may be small, or an ulcer may be simulated by a permanent niche or a persistent transverse spasm. Although there may be a subsidence of symptoms, an ulcer may remain. Where the symptoms of ulcer are present, together with a positive x-ray diagnosis, an ulcer is invariably found. When symptoms are present but the x-ray is negative, ulcer is usually found. When symptoms are absent but the x-ray is positive, ulcer is usually absent. Hence it seems that in these cases history and symptoms are of most value. The x-ray should be considered as confirmatory evidence.

Differential diagnosis from duodenal, gall-bladder, and pancreatic disorders and chronic interstitial appendicular disease is difficult, and of all differentiating symptoms, periodicity is the most important. This symptom of periodicity must be carefully elicited, since the previous attacks may have been slight and forgotten. A fissure, erosion, or soft ulcer heals in spite of treatment, and therefore should not be included in ulcer statistics. Only the indurated lesion should be cited. No two of these are alike, varying in location, depth, size, and variety.

Focal infections must be eliminated, the Wassermann be made negative, irritation decreased, acidity neutralized, diet regulated—and some patients will be cured. All treatments give varying results, and a comparison of cases of 1910 and 1924 shows, if anything, retrogression. Dietetic methods are more comfortable for the patient than the Sippy treatment, for the hourly feeding of cream fats and alkalis soon causes distress to the patient, without brilliant results. Whether the diet of Coleman, or of Sippy, or treatment by starvation and nutrient enemata, or raw eggs, milk, gelatin, cream and butter, is the method employed, the results are the same. These will be had from any bland form of diet. Why use the duodenal tube or nutrient enema, when with either the gastric secretion is reflexly stimulated to bring about an undesired gastric acidity? When the ulcer occurs in the chlorotic young woman, feeding by mouth is preferable to the duodenal tube. The essential thing in the treatment is to quiet peristalsis, lessen secretion, allay gastric sensibility, and increase nerve strength. This may be accomplished by giving the patient small quantities of nourishing, bland fluid food over the first three or four weeks—while he is in bed. After he leaves the bed, during that next six months, is the critical and most important time. During the first month, the diet should consist of cereals, bread and butter, milk and eggs, to 3,500 calories per day. Each month the diet should be increased, until at the end of six months he is eating normally.

As to medication, alkalis are most important, though which cases will develop toxic alkalosis no one can tell. The alkali should be given to the point of tolerance, when gastric secretion and urine are neutral. Calcium carbonate and magnesium oxid are best. Atropin and morphin may be needed at first, and hypodermics of iron in the early stages, with organic iron later. Six one-sixth erythema doses of x-ray with bismuth subcarbonate in the stomach should be given weekly after the patient is out of bed.

Cured patients must be warned to watch for symptoms. If there is a recurrence, surgery is necessary, for if after one good medical treatment an ulcer persists or forms again, a second medical treatment will be useless, no matter what the interval has been. If the history shows that after a recurrence there ensues a period of six weeks of continued and increasing pain, operation is wisest. If there is anchoring of any part of the stomach or duodenum, if there is an ulcer on the posterior wall or lesser curvature, or if the ulcer is large and indurated surgery is needed. If the red blood cells appear throughout a fractional test after prolonged medical treatment, if in the x-ray film the defect is more than ¾ inch, or if the ulcer is near or at the pylorus, the case is one for the surgeon. A permanent hour-glass contraction does not necessarily mean that an ulcer has preëxisted; it may be the remnant of a fibrosis such as general gastric sclerosis. It is justifiable to advance to the patient who fears operation the threat of cancer, although in only five to six per cent of gastric carcinoma are there evidences of previous ulcer.

Seventy per cent of all types of gastric and duodenal ulcers are medically curable; eighty per cent of medical failures are surgically curable; only six per cent are incurable; yet the etiology of the disease is still unknown.

Dr. A. A. Berg, New York City (by invitation): Surgical Aspect.—That it is exceedingly rare to bring about a permanent cure of gastric or duodenal ulcer by medical treatment must be modified to state that recurrences after medical treatment are very numerous. Surgeons, realizing this, have been searching for a radical cure. At first, insufficient knowledge of physiology, pathology, and etiology made the ingenious operations devised disappointing in their results, and the

medical men, observing the recurrences after surgery, smiled. After a study of physiology, chemistry, pathogenesis, and pathology, however, surgical procedure is accomplishing better results.

The effects of treatment must be grouped in three classes: (1) the permanent or radical cures—those who, after ten years of close follow-up, with occasional test meals, x-ray, and observation, show no gastric or duodenal ulcer; (2) the healed ulcers, which later will relapse; (3) the symptomatic cures, wherein the ulcer is unaffected. Permanent cure depends on three factors: (1) relief and cure of specific chronic gastritis; (2) anacidity; (3) removal of infection. That there is in a gastric or duodenal ulcer an accompanying gastritis is demonstrated in the freshly opened stomach, before autolytic processes have begun, by the presence in the fundus of an infiltration of the mucosa and submucosa by lymphoid cells to form hillocks, varying in size from pinheads to large polypi. On microscopic examination, fibrous tissue is seen to infiltrate the lymphoid tissue, and the surface of the hillocks becomes abraded and forms the base for future ulcers, which may account for the frequency of multiple ulcers. To bring about a radical cure, therefore, the part of the stomach involved must be removed—the chronic gastritis must be eliminated.

The 4 per cent of free hydrochloric acid which is present at the mouth of the gastric tubules becomes diluted to 0.4 per cent by the alkaline duodenal juices. When this dilution is disturbed, hyperacidity results. Ulcers at the pylorus, by causing stenosis or interfering with contraction, prevent this dilution. While it is true that 10 to 15 per cent of ulcers occur in a stomach wherein there is apparently no acidity, this fact may be accounted for by analysis of the acid salts, which would probably reveal a secretion not achylic after all. A surgical procedure is needed to make and keep the patient anacid, to prevent recurrence of the ulcer. Under medical treatment, with diet, tubes, and rectal alimenation, the patient will remain acid. Under the palliative types of operation, such as gastro-enterostomy and excision of the ulcer, the patient remains acid, and recurrence is common. To obtain anacidity, one of two operations must be performed: (1) a sleeve resection, which probably brings about anacidity through disturbance of a hypothetical center which controls acid secretions; (2) subtotal gastrectomy.

The infection found in these cases is usually by the green streptococcus, and must be removed bodily. The periodicity of attacks, the slight rise in temperature, the edema of the forehead during the active stage, all bear evidence to an infective process. Quiescence of symptoms may be due to neutralization of the bacterial toxin by an antitoxin produced in the body. Medical therapy, therefore, is only palliative—the infected part must be removed. A gastro-enterostomy leaves the gastritis, acidity, and part of the infection; a pyloroplasty does the same; a sleeve resection disturbs functional motility. After a subtotal or partial gastrectomy, only, are the patients well in 95 per cent of the cases. Of eighty-four patients upon whom subtotal gastrectomies were performed (eleven of these being secondary operations) there have been five deaths—5½ per cent mortality—these being due in two to pneumonia; in one, to cerebral embolism; and in two, to no discernible cause. After four years, there have been no recurrences of ulcer following this operation.

Slides followed giving statistics on the various methods of operation, with resultant acidity or anacidity, and demonstrating the chronic gastritis with its pathology.

Dr. J. E. Sweet: Laboratory Ulcer.—In order that a given disease may be ascribed to a definite etiological organism it is necessary to fulfill the postulates of Koch: (1) find the organism in every case, (2) isolate it in pure culture from the case, (3) reproduce the disease by animal inoculation, (4) recover from the animal the organism in pure culture. These principles, in general, must be applied to the study of gastric ulcer. If hyperacidity is a factor, it must be found in all, and should produce the lesion in a laboratory animal.

Ulcers of the gastro-intestinal tract do not occur in animals—a fundamental difference between them and man, possibly due to breeding, elimination of inherent weaknesses in the wild, and selective breeding in the domestic animals. Ulcers may be produced in the laboratory animal (1) by intravenous injection or feeding of bacteria; (2) by introducing diphtheria toxin into the blood stream, producing ulcers similar to those found clinically in the duodenum after burns; (3) by mechanical means, as excision of the wall, ligation of or injection of the gastric arteries. An experimental ulcer was produced by adrenalectomy, probably through the resulting intestinal toxin rather than a hypothetical endocrine action, however. Laboratory ulcers show a tendency to heal completely, and therefore are different from ulcers in man.

What factors, then, occur in man and not in animals to produce and foster ulcer? In the course of the gastro-intestinal tract, islands typical of one organ can be found in adjoining organs. In the stomach and duodenum, these islands occur in areas common to ulcer, and if dropped out they would leave a clean-cut, punched-out hole. These islands, disturbances of embryonic development, are rare among animals, since real eugenics has long been forced upon them. That ulcers tend to run in families, and are most frequent in those of ptotic type also tends to bear out this theory. What factors make the human ulcer persistent, not likely to heal? Prevention of healing might be due to two things: something at the base, or constant motion. If, for example, pancreatic tissue lay at the bottom of a duodenal ulcer, by its digestive action it would prohibit healing. Upright posture, with resultant enteroptosis, provides the constant motion, and it is known that ulcer is aided by rest in bed and quieting of peristalsis.

How, then, explain the good effects of gastro-enterostomy? By fixation—correction of the posture? The normal position of the stomach is unknown. If ulcer is caused as outlined above, the pursestring suture around it is the most physiological treatment. The bowel may be considered as four tubes: submucosa, mucous membrane, smooth muscle, and peritoneum. In the stomach, the tube is very loosely attached to the muscle, its movability is changed by an ulcer, and relief of this fixation is necessary. Since the persistence of a duodenal ulcer is due to pancreatic tissue at its base, excision is the only treatment.

Discussion was opened by *Dr. H. L. Bockus*, who said that to produce ulcer, the gastric juice must become hyperacid, there must be an area of lowered local resistance, and an area of lowered general resistance. Vascular spasm, emboli, bacteria, vagus and splanchnic nerve impulses, endocrine glands—all must be considered. Aberrent intestinal tissue is not as common in the stomach as is ulcer. Physiologic experimentation with surgery has lately thrown some light on ulcer. Diagnosis is frequently difficult, and must be based on the history—periodicity, chronicity, relation to eating. Gastric analysis will very often show hyperacidity, delayed emptying, and occult or gross blood. The

x-ray is a valuable adjunct but the Einhorn string test is unsatisfactory. Cholecystographic work is helpful in differentiating duodenal ulcer from gall-bladder disease.

Coöperation between medicine and surgery is essential for treatment. A thorough medical survey should be made in every case, and long treatment is necessary. The importance of focal infection in these cases is doubtful. They must have rest in bed, mental rest, and a nonirritating diet, low in salt and of sufficient calories. Alkalies, belladonna, and sedatives are often needed, and alkalosis is rare. Injection of histamin may provoke a strong secretion in gall-bladder disease and cause anacidity, possibly through hormone action. Considering the histology of the stomach, it is doubtful that gastrectomy can produce anacidity. Medical treatment should be given a long trial before resorting to surgery.

Dr. Behrend regretted the absence of Dr. Deaver, who, he said, prefers gastro-enterostomy in these cases. He himself, however, has seen good results after subtotal gastrectomy.

Dr. Rehfuss said it is results that count, and both in surgery and medicine, these cases must be supervised over a long period. Those patients who on examination show a simple uncomplicated ulcer should be treated medically; those with a callous, indurated ulcer, those with persistent bleeding, with malignant degeneration, or those who have had no benefit from medical treatment should be treated surgically. Of his first hundred cases of uncomplicated ulcer of the duodenum, all are living, and these run over a fifteen-year period. An ulcer is persistent, the patient is sick, and though the symptoms may vanish in a few days, two to three years are necessary for a cure. The patient must eat to live, not live to eat, and must be frequently reëxamined for control and to note progress.

Dr. Eberhart cited cases treated medically, and well after ten to fifteen years. Medical cure depends on treating the case under a definite régime. There should be lavage of the stomach, and possibly of the duodenum, in the morning, using zinc chlorid to abstract secretion from the glands. Transfusion from a donor into whom has previously been injected material from the cardiac glands, possibly by antitoxin action, is beneficial. Postoperative cases must be treated medically to effect a complete cure.

Dr. Bassler stated that though a case is treated for six months and apparently cured, the defect may persist and be permanent. He has recently had four cases of alkalosis after the Sippy treatment. He doubts that carcinoma bears any relation to ulcer. He has not seen such high acidity after gastro-enterostomy as would appear from Dr. Berg's figures. Relative to Dr. Berg's two cases of death from cause unknown, he cited experiments on dogs in which this occurred also, and suggested the possibility of a vital center in the duodenum. If the specific gastritis is etiologic, medical treatment should be beneficial. He has recently seen three patients who have had subtotal gastrectomies, one suffering from a bad anemia, and two with bleeding.

Dr. Berg said that antrumectomy in 90 per cent produces anacid gastric juice. Whether this is a hormone action he cannot say, just as he still is unable to prove the center which seems to be at the reëntrant angle which causes anhydria after sleeve resection. He tried histamin in one patient with nearly fatal results, and has not used it since. He has had some secondary anemia, but the one case of severe anemia occurred with a four-plus Wassermann, and improved on administration of mercury. He thinks that carcinoma does develop on an ulcer base. After subtotal gastrestomy the patient eats everything, has no pain, and goes back to his job. He does not believe patients will continue to follow a diet.

SOMERSET—JANUARY

At the stated meeting on January 19th, Dr. F. W. White delivered an address on "Psychology in the Practice of Medicine." He said in part:

The general public seems to know but little and to care less about the school from which the medical practitioner has been graduated. This lack of information concerning the education of the doctor accounts, in a large degree, for the employment of the cultist and the medical faker. The physician can and should make use of psychology to counteract this lack of information on the part of the public. The cultist uses it to keep the people in ignorance; why should we not use it to dispel the ignorance?

The physician should be well dressed, not given to vulgar or profane language, should be courteous, considerate, and kind to every one, not only to his clientele. He should make careful, thorough examinations of his patients, in a mild and unpretentious manner which will create confidence in his skill. The practice of these qualities cannot fail to have a psychological effect—a favorable effect—on the public and the patient. Further, he should treat his confreres with the utmost courtesy, and in accord with the tenets of medical ethics—which is too often not the case. Proper regard for brother physicians will stimulate their regard in return.

Dr. George C. Berkheimer, of Windber, was transferred to the Cambria County Society; and Dr. Walter F. Johnson, of Shanksville, and Dr. Russell A. Noon, of Listie, were received into membership.

H. C. McKinley, M.D., Reporter.

WARREN—JANUARY

The annual meeting was held January 18th. Dr. Mary Riggs Noble, of the State Department of Health, gave a sketch of the plans of the Department in reference to maternity cases, and the efforts being made to reduce both maternal and infant mortality. The program, as outlined, if it can be carried out, would assure to each prospective mother a complete physical examination in the first month, repeated monthly urinalyses, weekly in the last month, and all other necessary examinations to forestall toxemia. For the woman in the rural districts, this would be done through the agency of the visiting nurse. Maternal and infant mortality and morbidity would be greatly reduced, and the work of the physician expedited. Warren Borough has maintained very careful vital statistics, and a survey of several years shows an average rate much less than that given in the statistical study of the State, and compares favorably with other towns. The question of what is to be called a maternal death, i.e., a death from puerperal causes, was also considered. If there is no adopted standard there can be no comparisons between one district and another. Deaths occurring a year or more after childbirth may be due to puerperal causes. Are they to be classified as such?

The following officers were elected for 1926: M. T. Smith, Warren, president; E. S. Briggs, Warren, 1st vice-president; C. H. Vermilyea, Russell, 2d vice-president; R. L. Young, Secretary and Treasurer.

M. V. Ball, M.D., Reporter.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. W. Wayne Babcock, *Editor*
Rydal, Pa.

THE EXECUTIVE BOARD MEETING

The success of the Woman's Auxiliary is evident by the response of the Board members to the call for a meeting in Harrisburg, February 12th. Thirteen of the sixteen members were present, the three absentees giving sufficient and legitimate excuses, Mrs. Parke being in Florida, Mrs. Allyn detained through illness, and Mrs. Lyon attending the annual Auxiliary Luncheon of her county.

Those present were: *Allegheny County*—Mrs. James I. Johnston, Mrs. J. M. Anderson, Mrs. Sydney A. Chalfant; *Dauphin County*—Mrs. Charles S. Rebuck, Mrs. Harvey F. Smith; *Fayette County*—Mrs. Charles H. Smith; *Lehigh County*—Mrs. Frederick R. Bausch; *Montgomery County*—Mrs. Edgar S. Buyers, Mrs. J. Newton Hunsberger, Mrs. John G. Wilson; *Philadelphia County*—Mrs. W. Wayne Babcock, Mrs. John M. Fisher, Mrs. Myer Solis-Cohen.

Surely the present Board members are attempting to justify the confidence placed in them, as every one was in Harrisburg the night before, in order to attend promptly the ten o'clock meeting the next morning.

MINUTES OF THE MEETING

A meeting of the Executive Board of the Woman's Auxiliary was held at the Academy of Medicine in Harrisburg on February 12, 1926.

The meeting was opened by a brief welcome from the president, Mrs. James I. Johnston, who directed the secretary, Mrs. Myer Solis-Cohen, to read the minutes of the previous executive meeting. These were approved as read, and new business was considered.

The following nominating committee was appointed: Mrs. W. W. Babcock, chairman; Mrs. H. B. Allyn, Philadelphia County; Mrs. Walter F. Donaldson, Allegheny County; Mrs. H. W. Morrow, Allegheny County; and Mrs. J. H. Fager, Jr., Dauphin County.

The president made a strong appeal to have her letters answered immediately, as important business is at times delayed several months because the executive officers are awaiting sanction to act.

National Delegates

Plans for the Texas meeting were made. Mrs. Johnston, Mrs. Parke, and Mrs. Babcock being members of the National Board, automatically represent the East. Consequently, it was thought wise to appoint other delegates to represent the State. Mrs. Hunsberger of Montgomery County, Mrs. Ray of Allegheny County, and Mrs. Bausch of Lehigh County, or an alternate, were appointed. If each eastern State were to send six representatives to the Texas meeting, what splendid progress would be made!

Financial Report

Before the Treasurer's report was given, Mrs. Johnston announced that the State Medical Society had given her $100 to meet any organization expense of the previous year, in order that the Auxiliary need not start its career in debt. As the organization work had been done entirely at the personal expense of the first president, Mrs. William E. Parke, it was moved and seconded that this money be used to reimburse her.

The Treasurer presented the following report for 1925 and 1926:

Cash Received

Philadelphia County	91.50
Montgomery County	8.00
Fayette County	10.00
Allegheny County	60.00
Mifflin County	20.00
Westmoreland County	7.50
State Medical Society, contribution	100.00
Total	$297.00

The $91.50 from Philadelphia had been sent before the Atlantic City meeting, in order to help the National treasurer meet her expenses. As last year's treasurer, Mrs. F. L. Van Sickle, was abroad, the check had quite a trip before it found its destination—the State Auxiliary treasury. It was, therefore, resolved that one half of the amount from Philadelphia be forwarded to the National treasurer as the amount due for 1925, and the remainder of the dues be credited to Philadelphia as State dues for 1925-1926.

A printing bill of $9.00 was presented and approved for payment.

Mrs. Bausch was authorized to get suitable blanks for collection of dues from the various counties.

Through some misunderstanding, there was a motion at the Atlantic City meeting that the Pennsylvania dues be returned. Should this matter be brought up at the Dallas meeing, it has been resolved that Pennsylvania's money for the year 1925 be retained in the National treasury as a gift from Pennsylvania.

For the benefit of those counties who have not copies of the State Constitution, the following is quoted:

Article viii—Dues

Each county auxiliary shall pay dues to the State Auxiliary at the rate of one dollar ($1.00) per capita, of which twenty-five cents (25c) shall go to the National Association. Bills for dues shall be sent by the treasurer during March of each year to each county auxiliary, and are payable on or before the next July first. A county auxiliary in arrears for dues shall not be entitled to representation at a meeting of delegates to the Auxiliary, and if its dues are not paid by the following March first, it shall be dropped from the membership of the State Auxiliary.

Legislative Report

To the President and the Board of the Woman's Auxiliary of the Medical Society of the State of Pennsylvania:

During the last year (1925) the Legislative Committee was interested in several bills pertaining to the healing art, that came before the Legislature.

Among them were:

1. The Osteopathic Bill, which was introduced in the Senate. It was much discussed before the Committee on Health and Sanitation, but after several hearings it was kept in committee and not voted upon.

2. The Naturopathic Bill, which was defeated in the House, but was reconsidered and finally passed by the House. However, it was held in the Health and Sanitation Committee of the Senate, and never came up for vote.

3. The Chiropractic Bill, which was defeated decisively in the House.

4. The Annual Registration Bill, requiring all those practicing the Healing Art to register each year, which was passed.

It is now believed that in the future the medical profession will push a constructive program instead of doing defensive work as they usually have in the past.

They now seem to be working without dissension for a One-Board Medical Bill. It is hoped that such a bill may be passed in the 1927 Session as will protect the people of our State against poorly prepared practitioners in the healing art.

Let us keep alert and informed on all activities in a legislative way that pertain to the medical profession, and use our influence as best we can to further any useful legislation, particularly anything that brings so unanimous a recommendation from the State Medical Society as does the One-Board Bill.

Respectfully submitted,
Louise K. Wilson
(Mrs. John G. Wilson),
Chairman Legislative Committee.

Organization Report

Madam President and Ladies of the Board:

In the absence of Mrs. Parke, I feel free to make the following statements in regard to the organization work of the State:

There are sixty-seven counties in the State. Thirty-four of these are organized and carrying on active work. Three counties have reported that they do not feel the necessity of the Auxiliary and prefer not to organize. Thirty counties remain unorganized. A letter has been sent to the president of the medical society of each of these counties, asking for a definite statement as to his feeling with regard to the Auxiliary. This letter was published in the February number of the Atlantic Medical Journal. Before the National meeting, the entire State will have been reached, and the Auxiliary established wherever it is welcome. It is not the policy of the Committee on Organization to urge upon any county the formation of an Auxiliary unless there is a desire or a need for it.

Marion W. Babcock,
(Mrs. W. Wayne Babcock),
Chairman, Committee of Organization.

At this point the Harrisburg situation was discussed. The Wimodausis Club, one of the oldest organizations of doctors' wives in the State, is a thriving and active organization. Some few of its members, however, are not related to men in the County Medical Society; therefore the club as a whole cannot be affiliated with the State or National Auxiliary. With such a worthy organization answering every need, there seems to be a question as to the desirability of a similar organization in the form of a Dauphin County Auxiliary. The problem is somewhat embarrassing, but scarcely one needing outside advice. A suggestion to all counties reaped from the discussion is as follows: that the county president's wife automatically become an honorary vice-president of the county auxiliary.

Publicity Report

Madam President:

Little has been done along the line of publicity other than the use of the column in the Atlantic Medical Journal for a report of Auxiliary affairs. That the Medical Society has given the Auxiliary this recognition is a decided asset, and every effort should be made to retain this means of county communication. Reports of play and serious work should be in the hands of the editor by the tenth of the month.

Marion W. Babcock,
(Mrs. W. Wayne Babcock).

The promotion of the distribution of *Hygeia* is a phase of the work of the State Auxiliary. For every subscription obtained through a county auxiliary, $1.25 may be retained in the county treasury. This magazine is worthy of being placed before the lay adults and children throughout the country, and with proper support from the Auxiliaries, its circulation should be greatly increased. In time, it is hoped that it may be used as the organ of communication for National Auxiliary affairs.

Campaign for Periodic Health Examinations

In the campaign for periodic health examinations, the American Medical Association is attempting to reach the public through the doctors. Surely, this is a matter in which the Auxiliary can help. Mrs. Johnston urges upon the State the Pittsburgh idea—*begin with the physician's own family.* Every physician should have on his desk the blanks obtainable in Harrisburg, with questions to be filled in by the patient and the doctor. This simplifies the examination and unifies the filing of records.

Cancer Control

It is most fitting to mention at this point the desire of the Auxiliary to aid in the work of cancer control. If every member would feel personally responsible for arranging to have some representative of the profession address one of the lay organizations to which she belongs, on the subject of cancer, many thousands of people over the State could be reached. Sunday Schools, card clubs, parent-teacher associations, and political clubs, are examples of the groups to which the doctor's wife belongs. Records should be kept, and a report made at the State meeting in October as to how many speakers the Auxiliary has been responsible for sending out.

The State Meeting

The program for the State meeting in Philadelphia October 11 to 14, 1926, was placed in the hands of the Chairman of Arrangements. The following suggestion was made: that no social affairs be placed at the time when the Auxiliary meetings were called.

A discussion as to changes in the By-Laws resulted in the decision that no changes be made until after the Dallas meeting, as the National Constitution, which is under revision, may necessitate various amendments to the State Constitution.

The president declared the meeting adjourned until the night before the next general meeting, time and place to be announced later.

Mrs. Harvey F. Smith and Mrs. Charles S. Rebuck entertained the Board at luncheon in a most attractive tea room, thereby personally adding to the hospitable reputation of Dauphin County.

THE

MEDICAL SOCIETY OF DELAWARE

SEMMELWEIS

Discoverer of the Cause of Puerperal Fever*

JOSEPH A. DALY, A.B., M.D.

PHILADELPHIA, PA.

Fifty years ago, a celebrated American poet wrote:

"Truth forever on the scaffold,
Wrong forever on the throne;
Yet that scaffold sways the future,
And behind the dim unknown
Standeth God within the shadow,
Keeping watch above His own."

The truth of these words is often strikingly demonstrated in many periods of history, but, in the story of the making of Medicine, it springs from the dead pages of the past and makes the cold record of the historian pulse with the vibrant thrill of life: it awakens our interest and sympathy until we find ourselves hanging, breathless, on the story of the trials and triumphs of the great disciples of Æsculapius.

We see it in the bitter fight of the anatomist for recognition in favor of the dissection of the human body. Ridiculous as this may now seem, still it is within the memory of living men when anatomical material was obtained, not only surreptitiously, but in quiet defiance of the wishes of the public and the laws of the commonwealth. Happily, a wide-awake public opinion now recognizes the necessity for the student to acquire material by which he may learn the structure of the human body through the personal contact of the eye and hand.

We see the truth of the poet's words in the story of the discovery of percussion by Auenbrugger, of the stethoscope by Laënnec, vaccination by Jenner, the perfecting of the clinical thermometer by Wunderlich, the timing of the pulse by the Irish clinicians, and intubation of the larynx by O'Dwyer. Despite the ridicule heaped on these men by the inky tribe of envious critics, most of them lived to see their discoveries approved, accepted, and used by the profession.

A man is to be pitied who mistakes error for truth, or truth for error; but oh, the pathos of it all, when one sees truth, recognizes it, but preaches it in vain to a scornfully unbelieving world—truth which means not an academic triumph, but the saving of thousands, aye, millions yet unborn!

We can sympathize readily enough with Columbus who maintained that the earth was round in the face of the then universal belief to the contrary, but the triumph of his views did not directly affect the health and happiness of his fellowmen. What shall we say, how shall we condole with one who, seeing myriads of women dying through sheer ignorance from infection following childbirth, courageously pointing out the cause, proving his contentions with undisputed facts, only to be met with the mocking cry and the rude jibe of the executioners who should have been the protectors and guardians of womankind?

Should such an one possess the placidity and calm tranquility of the gods, criticism and jibes alike will fall on deaf ears, and time will vindicate his doctrines if he hold to them unswervingly. If, however, he be cursed with an unstable nervous system, if he be given to brooding and melancholy, then a fearful tribute will be exacted from him should he persevere in his views. When reason breaks beneath the strain, when mentality totters on the brink of despair, and the fight is lost temporarily through intervening insanity, then must all lovers of truth mourn for one who gave all in defense of that goddess who has led so many to an unhappy doom.

Such is the life story of Ignaz Philipp Semmelweis, the Viennese obstetrician. After years of careful study and observation, he discovered the cause of puerperal fever, but, sad to relate, he preached in vain to a bitterly incredulous world and died a mental wreck on the shoals of insanity, strangely enough of pyemia. The bitterest irony of all, however, was the posting of his body in the clinic where he had formerly been professor, meeting the same fate as the veriest beggar of the streets!

In middle life, he found himself on the tranquil road leading to an honored old age as Privat-Dozent, but suddenly a great truth rose phantomlike to comfort him, and there appeared

*Read before the New Castle County Medical Society, Wilmington, Del., January 19, 1926.

to him another road paved with burning coals, over which the Goddess of Truth beckoned to him to walk with bare feet. Without an instant's hesitation, he forsook the happy peace of the one for the bitter agony of the other, and he paid the price with his life. This is the test of a great man.

"Then to side with Truth is noble: when we share her wretched crust
Ere her cause bring fame and profit, and 'tis prosperous to be just:
Then it is the brave man chooses, while the coward stands aside,
Doubting in his abject spirit, while his Lord is crucified
And the multitude makes virtue of the faith they have denied."

The evolution of the science of obstetrics is interesting, but scarcely a pleasant subject for reading. The treatment accorded the pregnant woman in former ages can scarcely draw aught but a sympathetic shudder from the student of today. Even now, the mortality among pregnant women is frightful, and is a reflection on the profession as a whole. The pity and shame of it all resides in the fact that many of the deaths are preventable. Our own country occupies an unenviable prominence in this respect, according to those most competent to speak, and the profession should see to it that conditions are speedily changed.

Dr. J. O. Arnold, Clinical Professor of Obstetrics at Temple University, in a paper read recently before a county-society meeting, quoted Dublin's estimate that at least forty-five per cent of the deaths from childbirth are due to infection. De Lee is the authority for the statement that in the United States five thousand mothers die every year from eclampsia alone, and four thousand from hemorrhage. As Dr. Arnold points out, the astonishing fact is that we are doing very little if any better than we did a quarter-century ago. And this in spite of the fact that we have had constantly brought to our attention in recent years data that fairly shocks us with the enormity of infant and maternal mortality and morbidity resulting from this supposedly normal physiologic process of childbirth.

Dr. Arnold continues: "Statistics show that our country still holds a very unenviable place among the nations of the earth in its mortality rate from this cause. If even a relatively small percentage of the twenty-five or thirty thousand mothers that die every year in the United States from the effects of pregnancy and labor, can be shown to be from almost wholly preventable toxemia and sepsis, then we have a prophylactic problem big enough to demand our most serious efforts. But if it is true, as many competent observers claim, that more than fifty per cent of these deaths are from preventable causes—that at least ten to fifteen thousand of the most valuable women of our land could be saved every year by better obstetrics—then surely there can be no doubt that here is a challenge that the medical profession can illy afford to overlook or ignore.

"When to all this maternal and infant mortality we add what De Lee calls the 'absolutely unmeasurable amount of maternal invalidism' resulting from childbirth, then I am sure we are safe in saying that the domain of practical obstetrics offers one of the largest and most urgently needful fields in all the realm of preventive medicine."

It seems, therefore, to be the opinion of the trained observer, that obstetrics, in so far as possible, should be done in hospitals, and should be made as important a specialty as major surgery. There are hosts of physicians who would shrink from performing a simple appendectomy, pleading inexperience as an excuse, and yet from the abysmal depths of fatuous ignorance will attempt deliveries that require far greater skill than does the removal of the appendix. Conditions, however, are constantly improving, but God speed the day when complicated deliveries will be done only by the skilled obstetrician in well-equipped maternity hospitals!

That puerperal fever existed among primitive peoples may be seen from a study of the Ayur Veda of Susruta, a thousand years before Christ. Hippocrates in 400 B. C. described cases so well that they could be placed in the modern textbook. The means of prevention used by the ancients varied with the peoples. Isolation of the parturient, the cleansing bath in the stream after labor, the fumigation of the vulva with aromatic herbs, and fumigation of the apartment. The disease is mentioned by Celsus and Galen. The first recorded epidemic occurred at Leipsig, 1652-1655, and was reported by Hervieux. The great French obstetrician, Marcieu, reported an epidemic in 1660, in the Hotel Dieu with a mortality of sixty-seven per cent. In 1831, the mortality in the Paris Maternité was nine per cent. At this time, it was the custom of the state to place the bodies of those that died in the maternity hospitals at the disposal of students for autopsy and dissecting work, and naturally the mortality was high under these conditions. It raged in Vienna, where the great Rokitansky held his clinic, and England was by no means free of the scourge.

The theory of the disease most accepted had been that advanced by Hippocrates; viz., that the disease was caused by the suppression of the

lochia. This was taking the effect for the cause. If, as the result of fright, taking cold, etc., the lochia ceased, they were absorbed into the blood and caused puerperal fever.

Puzos of Paris taught the "milk theory." He contended that during pregnancy, milk secretion begins, but it is all determined to the uterus, where the fetus uses it for nourishment. After labor, it is excreted by the breasts. If for some reason it is checked, so-called milk metastases occur and cause fever. Then the milk appears in the lochia (purulent lochia of sepsis), in the peritoneal cavity (the pus of puerperal peritonitis), in the pleural cavities (pus from pleuritis), or in the joints (pyemic arthritis).

Plater, in 1602, said it was a metritis; Hunter, in 1780, a peritonitis; Tonnelein, in 1830, a lymphangitis; and Mauriceau, a malignant fever.

Some, indeed, had pointed out the fact that it was infectious, but it remained for our own Oliver Wendell Holmes, in 1843, to present the facts in convincing style by an array of clinical reports in which he demonstrated that it was carried from one patient to another as a contagion, and also that it was caused by inoculation of the puerpera and that the source of the infection could be erysipelatous processes as well as cadaveric poisons. He suggested the following rules of prophylaxis:

1. A physician holding himself in readiness to attend cases of midwifery should never take any active part in the postmortem examination of puerperal-fever cases.

2. A physician, present at such postmortems, should use thorough ablution, change every article of dress, and allow twenty-four hours or more to elapse before attending a case of midwifery.

3. Similar precautions should be taken after the autopsy or surgical treatment of cases of erysipelas, if the doctor is obliged to unite such duties with his obstetrical work, which is in the highest degree inexpedient.

Holmes's views drew a storm of abuse on his peaceful Puritan head. The two leading obstetricians of the day, Hodge and Meigs of Philadelphia, ridiculed the literary physician, while the latter of the two testily advised him to stick to poetry. The rest of the profession was indifferent, and Holmes, after one more attempt to raise the issue, dropped it for the last time in 1855. How fleeting, indeed, is fame! Hodge and Meigs are remembered for their bitter intolerance and asinine egotism rather than for their really excellent work, while the name of Oliver Wendell Holmes is loved by countless thousands despite the fact that he avoided conflict with fatuous ignorance and professional humbug.

Fortunately for womankind, a brilliant champion arose to fight their battle in the person of a young assistant in the obstetric clinic of Vienna. It was no other than the renowned Semmelweis.

Ignaz Philipp Semmelweis was born July, 1818, at Budapest. His father was a wealthy shopkeeper and his mother, Theresa Muller, came from the same class. Ignaz was sent to an elementary school, where he seems to have received a rather meager education. One of the educational requirements of the time was that the children should learn two languages, German and Hungarian. It is said that he learned neither properly and did not speak or write as a well-educated man. His education in the arts was equally faulty, so that he began his medical studies with his mind not burdened with many useless theories and facts, and free from the restraining effects of the rigid German discipline of the day. After two years at the University of Pesth studying philosophy, he entered the University of Vienna as a law student, but soon tiring of this, he began the study of medicine at the age of nineteen.

As a student he was industrious, with a remarkable fund of physical activity and mental acuity. In March, 1844, he passed the examinations for his degree, but the sudden death of his mother at this time prevented him from taking his diploma. He obtained the coveted honor in April, 1844, and after four months of arduous work received a diploma as master of midwifery. On July 1, 1844, he applied for the post of assistant in the obstetric clinic whenever a vacancy should occur. Two years later, to the day, he assumed the duties of this office, but had to resign in October in favor of his predecessor, Dr. Breit, who had obtained a two years' extension of his appointment.

While waiting for the appointment which he held for such a short time, he employed his time to good purpose, having free access to the clinic without having to do routine work. He was indefatigable in his attendance at autopsies performed by the renowned pathologist Rokitansky, who was very kind to the youthful obstetrician.

Toward the close of 1846, he again became assistant in the first obstetric ward of the Allgemeines Krankenhaus. This ward bore an unenviable reputation, in that the mortality was terribly high. In 1846, there were 460 deaths in the first clinic, and 105 deaths in the clinic for the midwives. When women learned that they were to be taken to the first clinic, they begged on bended knees to be taken home. The second clinic, given to the midwives, had a much lower mortality, and the latter taunted the physicians with this fact.

There seemed to be no particular reason for this condition, and the young assistant noted that

the disease prevailed with irregular, unassignable fluctuation, year in and year out in the hospital, but not in the homes; that women who were delivered on the way to the hospital seldom sickened; that parturients who had long, hard instrumental labors were nearly always affected; that one or the other assistant had the most cases; that maternities where students were not taught showed the lowest mortality; that overcrowding had no influence; that fright and nervous influence had no effect; that the disease affected the married as well as the single; that the newborn children died of the same disease as the mother; that no alteration of the diet, of the ventilation, of the methods of treatment, produced a change for the better; and all the time, the difference in mortality of the two clinics mystified and discouraged him. As Semmelweis said: "Everything was in question, everything was unexplained, everything was doubtful; only the large number of deaths was a positive fact."

While reviewing the puzzling array of facts, an event occurred, tragic in itself, but fortunate for womenkind. Kolletschka, the assistant of Rokitansky, and the close personal friend of Semmelweis, while performing an autopsy, had his finger accidentally pricked by a student, and shortly after died of septicemia. As Semmelweis stood beside the dead body of his friend and colleague at the autopsy table, he noticed that the pathological changes were similar to those of the unfortunate puerperas who had died. Like a bolt from the blue, came the answer to the question of years. He realized that the hands of the examiner, in many cases laden with material from the dissecting room, introduced into the vagina were responsible for the fatal issue.

The sheer simplicity of it all startled him, and with anxious mien and trembling hands, he placed a basin of water containing chloride of lime in the ward, with instructions that all vaginal examinations must be preceded by washing the hands in the solution. He eagerly awaited results, and was not kept long in doubt: the mortality immediately sank to 1.27 per cent, even lower than it was in the clinic of the midwives. He made only one mistake, and a calamity drew his attention to it.

Semmelweis had believed that the infection was carried on the hands only from the cadaver, but on one occasion an assistant examined thirteen women in succession lying in adjacent beds. The first case was one of gangrenous carcinoma of the cervix, the rest were normal cases. Eleven of the twelve died of puerperal fever, and then the fact was driven home to him that infection need not necessarily come from the postmortem room, but could come from hands infected anywhere. He now instituted washing of the hands before examining each case. At the same time that the mortality of the mothers improved, the infections of the newborn were substantially reduced.

Semmelweis's theory then reads that puerperal fever is a resorption fever brought about by the introduction of decomposed animal matter into the genitals. This matter could come from cadavers, from infected wounds of all kinds, and was carried into the genital tract by the fingers of the accoucheur, the instruments, the douche nozzle, the sponges, infected air, the bed linen, the bed pans—indeed everything that could transport the decomposed animal matter from its source to the parturient canal. He said the disease was only one form of pyemia, that it also occurred in surgical cases, and he recommended his methods not only to the obstetrician but to the surgeon as well. If the word bacteria be substituted for decomposed animal matter, the definition is perfect.

Realizing that he had solved the problem of puerperal fever, Semmelweis took steps to educate the profession in the value of cleanliness, but with scant success. To their eternal glory, may it be said Rokitansky, Hebra, Michaëlis, and even Skoda stood by him, but Scanzoni, Carl Braun, and the orthodox school of obstetricians waged a bitter war against him.

The intensity of their bitterness staggered him. A quiet, retiring man, he was no match for the mongrel pack that barked at his heels day and night. Disappointed and dismayed, Semmelweis stood with naught but a newborn truth between himself and his scornful critics. He felt afraid for womenkind, but not for himself. Overwhelmed by the treatment accorded him, he left Vienna and turned to Budapest, his native city. Then the irony of it all must have come home to him. Stripped of all—his career, his chair, his ambition, his friends, he retired into lonely solitude.

Before his eyes passed a mournful procession, and in it was every woman who had needlessly yielded up her life for her child. He saw them all—the mothers of ancient India, of mystic Egypt, of classic Greece, of age-old China, of mighty Rome, of nations and empires who were now but memories. He saw, too, the millions yet unborn, with outstretched hands and streaming eyes who, wraithlike, begged him to fight for them, to carry on the struggle that they might be spared to their little ones. The children at play seemed to beg his aid; the baby girls in the arms of tired mothers whom he passed on the streets seemed to sound a voiceless but piteously stirring trumpet call for his help.

The nobility of his soul, the sublime courage

of the man answered that silent call to arms. In 1855 he accepted a professorship at the obstetric clinic at Budapest, but his bloodthirsty enemies gave him no rest. In 1857 he began the preparation of his *Étiologie* which was published three years later. It was long out of print until 1905, when the entire works of Semmelweis were edited by Tiberius Von Gyory, Privat-Dozent in the University of Budapest, and published under the auspices of the Hungarian Academy of Sciences.

Toward the close of his life, Semmelweis became interested in gynecology, and he was a staunch believer in the idea that obstetrics and gynecology, being so intimately related, should be taught from the same chair. In gynecology, he followed the same method of antisepsis that he taught in obstetrics, and thus antedated Lister.

With the appearance of his *Étiologie,* the storm of criticism which beat about him so fiercely redoubled in intensity. Brooding over it all unbalanced him mentally, and for two years his friends watched the unfortunate man drift into dementia. Finally, on the last day of July, 1865, he was taken by his friend Hebra to an asylum for the insane in Vienna. Soon after, it was noticed that a finger of his right hand had become infected, probably during one of his gynecological operations. The wound had become gangrenous, cellulitis developed along the arm, metastatic abscesses formed, and finally pyopneumothorax supervened. On August 19, 1865, the life of the great obstetrician ended in pain, unhappiness, and despair.

The English artist, Burne-Jones, has painted a beautiful picture of the knight who met and yet forgave his worst enemy. As he turned aside, he knelt before a wooden crucifix of the wayside, and the Figure on the Cross bent to kiss him. Who can say that the great obstetrician, as he trod the thorny road to his Calvary, was permitted to pass comfortless on his way?

In a cemetery of Budapest, the great obstetrician sleeps his last sleep, and above his grave stands a beautiful monument. But Semmelweis needs neither towering shaft, nor honeyed eulogy; his life and works are monuments in themselves, and ones that are imperishable. His name will be ever a benediction on the lips of our most cherished ones—the mothers of the race. To paraphrase the poet—

By his life he taught, by his death we learn the great physician's creed:
The right to be brave, and the hope to be true, and to guard against selfish greed.
And richest of all are the unseen wreaths on his coffin lid laid down
By the grateful hands of mothers—their sob, their kiss, and their crown.

EDITORIAL

THE NURSING QUESTION

For the past few years there has been much discussion about the nursing question. This article may not add anything new to the arguments already presented. However, we feel that it is a momentous proposition, and should be dealt with earnestly and carefully by the medical profession and the laity.

There has been a tendency in the last decade not only to increase the standards in our medical colleges, but also in the nurses' training schools. It would not surprise us some day to see the requirements so high in some of our institutions that a nurse will be required to present an A.B. or B.S. degree before she will be accepted in the school. We are not saying this with any idea of ridiculing educational requirements, although personally we feel that the preliminary educational idea is being carried entirely too far. It will be but a few years before only the sons of the rich can study medicine, because of the necessary college requirements. These are the very men who need not study anything, and the men who should be studying and fitting themselves for a medical career will not be permitted to do so because of lack of funds. If ever such a condition should arise, medicine would suffer greatly, because some of the best men in medicine come up from the ranks, and know how to temper the wind to the shorn lamb.

Nurses everywhere have banded themselves together in nurses' associations, alumni associations, and state associations, just as some of our labor organizations have banded themselves into unions. They have laid down certain definite rules that the public must obey, and they have laid down certain prices that the people must pay. We believe, even though they charge $42 a week in our community, and do only twelve-hour duty, that they are deserving of every single penny they receive, and we would gladly see them receive more if possible, because we fully realize what the nurse must go through in the care and nursing of any single given case. However, we must not lose sight of the fact that all people do not possess enough worldly goods to be able to afford a luxury of this type. We say luxury because, at this price, a nurse *is* a luxury, even though her services may be an absolute necessity.

With all the hundreds of people in a community that need special care and attention, some needing constant attendance, there are many being deprived of such care and daily attention, because their financial earnings will not permit

of the expenditure of that amount of money each week. Some suffer severely, and even, perhaps, lose their lives, because these attentions are not available. It is true that we have hospitals, and some of these patients may be admitted to the wards for treatment, but if they were all admitted to the hospitals they would not receive any better attention there than at home, because the nurses in the wards are often assigned more work than they can take care of properly. Hospital authorities will tell you that when a patient is very ill, they much prefer a special nurse, because they realize their floor nurses cannot spare sufficient time for such attention as a patient of this type requires.

If it were possible to have an intermediate class of nurses, to be known as nurses' aides, or nurses' assistants, or practical nurses, or what not, many of these cases could receive much better care in the long run, and the outcome would be far different. We believe that it is possible to bring about this state of affairs by introducing a course in any one of our hospitals, or in all hospitals, whereby a young woman, regardless of her educational qualifications, but with determination and personal ability, might enter a training school for such practical education. Our plan would be to eliminate all, or nearly all, of the academic or scientific work, and give them elementary training in the practical, everyday nursing work. Teach them to take temperatures, to record pulse and respiration, and how to catheterize, how to make a bed, and bathe a patient. All of this could be done in the course of one year, and we would have a nurse that could take care of most of the ordinary cases that we have. These nurses would be made to understand that they were not qualified to take desperately ill patients, except as an aid to the graduate nurse. They would not be permitted to keep charts nor to record symptoms. At the end of a year, or a year and a half, when these nurses had completed their practical course, the hospital could furnish them with a certificate stating that they had finished a course in practical nursing in that institution. These nurses could register in the nurses' register as practical nurses, and would be expected to accept only cases where a practical nurse could be used. Their fee would be commensurate with their services.

Much argument has been advanced against this proposal. Some think that the standing of the hospital in the community would be lessened, and that it might have a harmful effect on its standing in the estimation of the American College of Surgeons and similar rating bureaus. However, we do not see how this could be the case, because they would still have the full-time regular course. The students in that course would necessarily have to measure up to all the educational requirements, would have to pass successfully all of the didactic courses, and would have to graduate and receive diplomas. This would put them in a special class; they would be known as graduate nurses, capable of taking care of any type of case, and their fees would be commensurate with their services.

A great deal can be accomplished along the lines stated in this paper, but it will mean much work and coöperation between the doctors, the nurses, and the officers of the various hospitals.

Medical News

Deaths

J. L. Isenberg, M.D., of Williamsburg; Jefferson Medical College, 1893; aged 57; November 17.

Joyce Feldstein, 5-months'-old daughter of Dr. and Mrs. Sidney Feldstein, Philadelphia; February 22.

Dewees A. W. Huebner, M.D., of Fern Glen; Jefferson Medical College, 1886; aged 62; December 1, 1925.

James N. Richards, M.D., of Fallsington; Bellevue Hospital Medical College, New York, 1873; aged 77; January 19.

Jacob D. Albright, M.D., of Philadelphia; Medico-Chirurgical College, 1893; aged 56; February 12, of heart disease.

Charles M. Adams, M.D., of Williamsport; Bellevue Hospital Medical College, New York, 1888; aged 67; January 21.

James S. Swartzwelder, M.D., of Mercersburg; Jefferson Medical College, 1892; aged 61; February 5, of heart disease.

Charles W. Fox, M.D., of Roaring Spring; Jefferson Medical College, 1882; aged 66; January 15, of pernicious anemia.

Charles J. Cummings, M.D., of Williamsport; College of Physicians and Surgeons, Baltimore, Md., 1903; aged 66; January 28.

Harry L. Murphy, M.D., of Pittsburgh; Georgetown University School of Medicine, Washington, D. C., 1912; aged 39; February 17.

James F. Saltry, M.D., of Scranton; College of Physicians and Surgeons, Baltimore, 1887; formerly county coroner; aged 59; January 7.

John J. Moore, M.D., of Pottsville; Medico-Chirurgical College, 1905; served in the M. C., U. S. Army, during the World War; aged 43; December 31, 1925.

Edward J. McGeehan, M.D., of McAdoo; University of Pennsylvania School of Medicine, 1892; for many years member of the board of health; aged 67; in January, of cerebral hemorrhage.

Dr. William Bateson, of London, England; one of England's most eminent biologists; director of the John Innes Horticultural Institution at Merton Park, Surrey, since 1910; aged 65; February 8, at Wimbledon.

Mary Branson, M.D., of Philadelphia; Woman's Medical College, 1873; one of the two founders of the Woman's Southern Homeopathic Hospital in 1896, and its president for years; aged 79; February 8.

HENRY B. KING, M.D., of York; Jefferson Medical College, 1883; member of the surgical staff of the York Hospital, and local surgeon for the Pennsylvania Railroad for many years; aged 65; January 24, of chronic myocarditis.

FELIX A. MURPHY, M.D., of Doylestown; born in Ireland, 1877; Jefferson Medical College, 1901; held a commission in the Medical Corps during the World War; February 10, from septic poisoning contracted when he performed an operation on a woman ill with scarlet fever.

MRS. ELLA GREEN MCINTIRE, widow of the late Dr. Charles McIntire, of Easton, and daughter of the late Dr. and Mrs. Traill Green, also of that city; aged 76; February 13, following a paralytic stroke. Dr. Edgar Moore Green, Mrs. McIntire's brother, is now the only surviving member of the family.

RALPH W. SEISS, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1883; for seventeen years in charge of the clinic for diseases of the ear, nose, and throat at the Polyclinic Hospital, and teacher of those branches, as well as pathology, at the Woman's Medical College and at the Polyclinic; author of many authoritative monographs on diseases of the ear, and distinguished for his work in pathology; formerly consulting laryngologist and otologist to the Pennsylvania Institution for the Deaf and Dumb; member of the College of Physicians; aged 65; February 2.

Births

TO DR. AND MRS. LEON CLEMMER, Philadelphia, a son, February 11.

TO DR. AND MRS. STANLEY Q. WEST, of Germantown, a son, Stanley Quay West, Jr., December 30.

TO DR. AND MRS. JOSEPH T. BEARDWOOD, JR., Melrose Park, a son, Joseph Thomas Beardwood, 3d, January 30.

TO DR. AND MRS. FRANCIS CLARK GRANT, of Chestnut Hill, and Jamaica Plains, Boston, Mass., twin sons, January 29.

Marriages

MISS SELMA STERN, daughter of Mr. and Mrs. Samson Stern, of Wilmington, Del., and Dr. Isaac S. Tassman, of Philadelphia.

MISS MARTHA LAMADE, daughter of Dr. and Mrs. Albert C. Lamade, of Williamsport, to John B. Morrison, of Pittsburgh, February 3.

MISS JOSEPHINE LANGHAM, daughter of Dr. and Mrs. William H. Langham, of Homestead, and Dr. George Elmer Bair, of Braddock, son of the late Dr. George C. Bair, January 16.

Miscellaneous

DRS. RICHARD B. STEWART and Ernest J. Cowden, of Warren, spent the winter in Florida.

DR. SAMUEL J. WATERWORTH, of Clearfield, has resumed his practice after a severe illness.

A MEETING of the American Health Congress will be held at Atlantic City, N. J., May 17 to 22, 1926.

DR. FRANK F. D. RECKORD, of Harrisburg, has been seriously ill at the Harrisburg Hospital with pneumonia.

DR. C. A. HAAF, of the Haaf Hospital, Northampton, has been elected president of the newly formed Rotary Club in that town.

BURGLARS ENTERED the home of Dr. T. H. Weisenberg, of Paoli, February 17, and carried away many articles of value. Telephone wires were cut.

AMANDA J. LESLIE, who died in January, devised by will $33,000 to the Home for Incurables, the Blind Asylum, and Friends Hospital, all of Philadelphia.

AT THE MEETING of the staff of the Delaware Hospital, Wilmington, Del., January 12, Dr. W. O. La Motte was elected president, and Dr. T. H. Davies, secretary.

DR. H. J. DONALDSON, of Williamsport, has been re-elected president of the Pennsylvania State Game Commission.

THE CONDITION of Dr. D. R. Rothrock, of Milton, who was a patient at the Williamsport Hospital, is improved.

PURCHASE OF THE WHOLE SUPPLY of medicinal whisky in the United States is planned by the Government as one means of removing it from bootleg channels.

DR. AND MRS. WILLIAM C. MITCHELL of Philadelphia, celebrated their fiftieth wedding anniversary at a reception held at the Hotel Rittenhouse, the evening of January 26.

THE NEXT ANNUAL MEETING of the American Gynecological Society will be held on Thursday, Friday, and Saturday, May 20-22, 1926, at the Red Lion Inn, Stockbridge, Mass.

PROFESSOR J. M. WEST, of Berlin, formerly of Baltimore, presided at the first of a series of clinics in Allentown recently, demonstrating the "West Operation on the Tear Duct."

THE VERY FULL and detailed report of the Jamaica Hookworm Commission has just been received in this country. It is a rich source of information on the subject for all interested.

DR. JOHN H. GIBBON, of Philadelphia, president of the American Surgical Association, gave the Hodgen Lecture of the St. Louis Medical Society, on "Mobilization in the Treatment of Fractures."

DR. J. L. MANSUY, of Ralston, who has been under treatment at Johns Hopkins Hospital, Baltimore, will soon leave for Florida to spend some time in recuperating.

THE FOLLOWING PHYSICIANS residing in Williamsport have been ill for some time: Dr. Charles W. Youngman, Dr. Jean Saylor Brown, and Dr. A. W. Bennett. All are now reported to be improving.

DR. BOWMAN C. CROWELL, professor of pathology, Jefferson Medical College, has resigned and has been appointed associate director of the American College of Surgeons, Chicago.

EMPLOYEES IN THE AUDITING DEPARTMENT of Gimbel Brothers' store, Philadelphia, gave 250 books, and Mr. Richard Gimbel a bookcase, February 2, for the children's ward in Jefferson Hospital.

DR. J. P. CROZER GRIFFITH, of Philadelphia, was swindled out of $2,000 and jewelry, February 18, on board a steamship at San Francisco bound for Honolulu, by a man who represented himself as the ship's purser.

HEALTH CONGRESS TO MEET AT SHORE.—The American Health Congress will meet at Atlantic City in May. Ten associations combined under the name of the National Health Council will form the nucleus for the congress.

DR. WALTER F. DONALDSON, of Pittsburgh, Secretary of the State Society, spoke before the Lions Club of Pittsburgh, February 11, on the subject, "Good Citizenship as Viewed by the Allegheny County Medical Society."

THE WIFE OF DR. W. E. BATES, of Centerport, recently sustained a fractured left leg when she fell in the yard of her home. Mrs. Bates is a member of the Board of Directors of the Ladies' Auxiliary of St. Joseph's Hospital, Reading.

FRED G. BEHLE, of Binghamton, N. Y., pleaded guilty to a grave-robbery charge in Delaware County Court,

and was sentenced to serve an indeterminate term of from two to four years at hard labor in Auburn Prison.

The United Medicine Manufacturers' Association will hold their convention September 13 to 15; the American Pharmaceutical Association, September 15 to 19; and the National Association of Retail Druggists, September 20 to 24, all in Philadelphia.

Emory University, Atlanta, Georgia, announces the launching of a $4,500,000 endowment and building program for its medical school (formerly the Atlanta Medical School) and hospital (the Wesley Memorial Hospital). The support of the medical profession is solicited.

Melody by Radio.—Through the efforts of the Philadelphia Music League, 315 radio sets have been installed in hospitals, institutions, and private homes. Boy scouts installed 259 of the sets as part of their "good-turn-a-day pledge." Various charitable organizations supplied a list of places where the sets were badly needed.

Dr. A. C. Abbott, a member of the faculty of the University of Pennsylvania School of Medicine, Philadelphia, who was waylaid by bandits and struck on the head with a piece of lead pipe, causing a depressed fracture of the skull, is making a satisfactory convalescence.

Dr. Charles H. Miner, Secretary of Health of Pennsylvania, was present at a meeting in Warren on February 3 of delegates from various organizations interested in health work, and a county health association was formed as a branch of the Pennsylvania Public Health Association. The meeting was largely attended.

The School of Medicine of Temple University, Philadelphia, will conduct an annual periodic health examination of all medical students, in order that the student body will be properly drilled in this routine and upon graduation will be prepared to conduct this procedure properly.

Dr. John A. Detlefsen, professor of genetics at the Wistar Institute of Anatomy of the University of Pennsylvania, has been made a Knight of the Order of Dannebrog by the King of Denmark and Iceland. The award was made in recognition of his work in science and literature, and the interest he has shown in the people of Denmark.

The annual business meeting of the American Society for the Control of Cancer was held at the national headquarters, 25 West 43d St., New York City, on March 6. This was followed by meetings of the Executive Committee and the Board of Directors, and in the evening by a dinner conference of the Advisory Council and committee chairmen.

New Building for Boston City Hospital.—The new Gynecological and Obstetrical Building at the Boston City Hospital, the corner stone of which was laid recently, will add much needed facilities for the patients, physicians, and nurses. The building, which will occupy the northeast corner of the hospital grounds at East Concord and Albany Streets, will cost $610,000.

The causes of baldness and other deteriorations of the human hair are to be sought scientifically. The initial donation of $5,000 towards establishment of a "College on Hair Research" has been announced. A member of the faculty of the College of Physicians and Surgeons of Columbia University, will be in charge of the proposed laboratory.

The annual get-to-gether dinner, given by Monsignor Peter Masson, Director of the Sacred Heart Hospital, Allentown, was held at the Hotel Allen on January 26, at six o'clock. Many members of the Lehigh County Medical Society were present. Dr. Edward J. Klopp, of Philadelphia, was the principal speaker. The host, unfortunately, was unable to be present owing to illness.

The American Association of Hospital Social Workers elected at its recent annual meeting the following officers for 1926: Mrs. Maida H. Solomon, of Boston, president; June Lyday, of Iowa City, vice-president; Margaret L. Wirt, of Boston, secretary-treasurer; other members of the Executive Committee, Mary C. Jarrett of Boston, Katherine Moore of Chicago, Helen L. Myrick of Chicago, and Mrs. Margaret J. Powers of New York.

The Board of Medical Education and Licensure of Pennsylvania has advised the National Board of Medical Examiners that it has rescinded its ruling that licensure by reciprocity would not be granted to successful candidates before the National Board until they had practiced medicine elsewhere for at least two years. The State Board has further announced that licentiates in other states seeking licensure in Pennsylvania by reciprocity will not be required, as heretofore, to practice two years before being approved.

Dr. George W. Davis, of Ottawa, Kansas, has suggested a universal calendar of thirteen months of twenty-eight days each which is being considered by the League of Nations. The first day of each month will be on a Sunday. Many physicians may deplore the adoption of such a suggestion, as it will necessitate sending out an additional monthly batch of bills; on the other hand, it will afford an additional collection period. The months will be named as at present. The additional month is placed between June and July, and is called Lune.

Chiropractic Tests.—The Philadelphia County Chiropractor's Association has announced through its president, that the association will petition Governor Pinchot to appoint a State Board of Examiners, to be composed of chiropractors, to investigate the moral character of all applicants for license. It is hoped that such reflections as were cast upon this profession by a recent criminal act would be entirely eliminated if the proper legislation were enacted requiring rigid examination of prospective practitioners, in both the science of chiropractic and the moral condition of the applicant.

Announcement has been made of the provision by the Mayo Clinic of Rochester, Minn., through an agreement with the Metropolitan Life Insurance Company, for an endowment fund for one hundred and thirty of its staff who have reached, or when they will have reached, the age of sixty-five. Each member of the group will be assured a fund based on his yearly salary, but not to exceed $10,000. In addition, life insurance on a group basis equal to the amount of the endowment is provided. This insurance is a gift from the Clinic to the staff.

The Pennsylvania death rate in 1925 remained almost stationary when compared with that of 1924. There was a "definite decline" in 1925 in the mortality from diphtheria and tuberculosis, with slight decreases in that from scarlet fever and whooping cough. The number of deaths from measles was higher than in 1924, with slight increases also in the rate from typhoid fever and cancer. Infant mortality also was somewhat higher than in the preceding year. The latter is of interest in view of all the agencies that are coöperating to keep down the mortality rate.

Dr. Franklin O. Carter, an eye specialist, in Chicago, was arrested for failure to pay a $15,000 judgment awarded to a war veteran who lost an eye after an operation by Dr. Carter. In addition, the State Department of Registration has ordered him to appear before it to show cause why his license to practice medicine should not be revoked. He is the first registered physician against whom such action has been taken since a recent exposure of irregular medical practices there. The $15,000 judgment was awarded to Max Schreiber, who went to Carter for an operation to straighten a cross-eye.

The committee for America of the International Stomatological Association, which is now making preparations for participation in the International Stomatological Congress to take place in Paris in 1927, consists of the following: *Chairman,* Alfred J. Asgis, D.D.S.; *Treasurer,* G. Reese Satterlee, M.D.; *Recorder,* E. B. Hardisty, A.B.; *Scientific Research,* E. C. Rosenow, M.D.; *Clinical Stomatology,* Joseph Colt Bloodgood, M.D.; *Education and Legislation,* Oliver T. Osborne, M.D.; *Public Health and Lay Education,* Wm. G. Shemeley, M.D.; *History of Stomatology,* Geo. W. Mackenzie, M.D.; *Bibliography and Nomenclature,* Anthony Bassler, M.D.

Immunizing to diphtheria of the 4,500 school children of the public schools of Sharon by treatment sponsored by, and with materials furnished by the State Health Department, took place on February 15, it is announced by Dr. S. J. Dickey, medical director of Mercer county. Eleven doctors and twenty-two nurses of the city took part in the work. Dr. Dickey spoke before an assemblage of teachers and principals of the city on the preparatory steps. The State requires that each child must have the consent of parents or guardians to the immunization, which is administered in three doses, a week apart. School children of Farrell, numbering 2,000, have already been immunized in the county campaign.

The Fifth Bedford Lecture will be delivered early in April. As at previous times, it will be on the occasion of a dinner. The essayist is Dr. Beverly Randolph Tucker, of Richmond, Virginia. His subject is "The Contribution of the Doctor to Literature."

Dr. Tucker is particularly well qualified to speak on such a subject. His contributions to neurological literature are too well known to require mention, and in addition, he is the author of a number of essays and poems of great merit. He has written a short biography of Dr. S. Weir Mitchell, with whom he was associated for several years.

The time and place will be announced later. Advance reservation may be made by writing to Mrs. Risacher, 7036 Jenkins Arcade Building, Pittsburgh, Pa.

New York University has received from Lucius N. Littauer, wealthy glove manufacturer, funds to be used for studies in the prevention and cure of pneumonia under the control of Dr. William H. Park. The gift has been designated as the "Lucius N. Littauer Fund for Studies in the Prevention and Cure of Pneumonia." A check for $5,000 was received from Mr. Littauer together with a letter to Chancellor Brown stating that checks for the same amount would be sent each six months thereafter to continue the work. Dr. Park, who will direct the research to be undertaken under the Littauer Fund, has been professor of bacteriology and hygiene in New York University and Bellevue Hospital Medical College since 1897, and director of the Bureau of Laboratories, New York City Department of Health, since 1894.

Medical Study Tour to Europe.—The Travel Study Club of American Physicians, founded at the London International Medical Congress of 1913, is announcing plans for its 1926 study tour. Sailing from New York on June 12, the party will visit clinics and medical institutions in the medical centers of Oslo (Christiania), Stockholm, Copenhagen (optional to Berlin and Munich), Cologne, Heidelberg, Strasbourg, Berne, Zurich, Leysin, Geneva, Paris, and London, returning on August 8. Dr. Louis L. Seamon of New York is president, and Drs. Fred H. Albee of New York, Edward B. Heckel of Pittsburgh, and John P. Lord of Omaha, are vice-presidents. Physicians in good standing, to the limit of fifty, are invited to participate in this tour, and the secretary, Dr. Richard Kovacs, 223 East 68th Street, New York City, will supply any further information desired.

Hospitals Merge.—St. Luke's Hospital and the Children's Homeopathic Hospital, Philadelphia, are to merge as one unit at the present location of the Children's Hospital, Franklin, Thompson and Eighth Streets, where new buildings comprising a maternity building, an "adult" building, a dispensary, power house, and laundry will be erected. They will be completed in about two years. St. Luke's will remain where it is until the new construction is finished. The new institution will have a capacity of about 350 beds, and will do general hospital work. There will be a complete reorganization of the staffs, so that regular service will be afforded all present chief and senior-staff members. The identity of the two hospitals will be maintained in the new name.

The movement for the prevention of blindness received new stimulus, February 8, when the National Committee for the Prevention of Blindness moved its headquarters from the Russell Sage Foundation Building at 130 East 22d Street, to the Building occupied by the other active members of the National Health Council at 370 Seventh Ave., New York City. Here the Committee will have as its immediate neighbors thirteen health organizations, the activities of which are frequently interrelated with its research, educational, and preventive work. Among the officers and directors of the Committee are: Former President William H. Taft; Dr. Charles W. Eliot, President Emeritus, Harvard University; John M. Glenn, General Director, Russell Sage Foundation; Miss Jane Addams of Hull House, Chicago; Dr. David Starr Jordan; former Senator Thomas G. Gore; Miss Helen Keller; Dr. Park Lewis; and Miss Louisa Lee Schuyler, the two latter being the founders of the organization.

Barbecue for A. M. A. Meeting.—The fatted calves are now being prepared for the Southwest's greatest barbecue, which will be served members of the American Medical Association at its national convention at Dallas, Texas, in April. Seven tons of meat to feed 10,000 doctors are to be prepared. Out on the Staked Plains of Texas, eighty pure-blooded beeves are being nursed and fed a diet that will turn them into the most succulent of steaks. Twenty cords of hickory and pecan wood are being seasoned for the fire over which the meat will sizzle. This wood gives the beef a much-desired flavor. From his herd of 2,000, Dr. John H. Dean, of Dallas, has selected eighty cows and calves, and has turned them into a separate pasture where the grass is knee deep. The calves will not be weaned, because the milk is adding to the succulence of the meat. Their mothers are being fed sorghum and cottonseed cake. This description of the "cue" that will be served on April 20 will make everyone's mouth water to go.

Cancer Institute Starts to Function.—The American Cancer Institute, New York City, founded on January 1 by the American Association for the Prevention and Cure of Cancer, has begun to function under the direction of Dr. L. Duncan Bulkley, president of the Association. At the Institute, they are interested not so much in the cure as in the prevention of the disease. Dr. Bulkley cited figures compiled by the United States Census Bureau in 1923, showing that in the registration area there were 86,754 deaths from cancer, representing an increase of 5,816 deaths, or a death rate of 89.4 per 100,000 population, compared to 86.8 death rate of 1922. Surgeon General Simmons, until lately head of the Division of Scientific Research of the Public Health Service, found in ten selected states of a homogeneous population a continuous rise in cancer mortality since 1900, especially noticeable in the age groups 30 to 39.

Dry Agents Raid Hospital.—Dry agents raided the Ellis Park Hospital in Chicago, February 15. Although there has been a falling off in practice, there was found less than a gallon left of 312 gallons withdrawn by the hospital in December. There were no patients in the hospital. The head of the hospital known as "doctor," is not a physician, and was taken into custody and held in bail on a charge of violation of the Volstead Act. He stated that the hospital is operated by the Cook County Business Men's Welfare Association, 750

members of which pay an annual fee of $10. The institution holds two charters from the state, one in the name of the association, and one in the name of the hospital. The "doctor" declared the yearly hospitalization is about 4,000, but that most patients are sent to other hospitals. The alcohol withdrawal was made under a permit issued in 1921. Ordinarily, a large hospital may draw 100 or 150 gallons quarterly. Suspicion was aroused when this hospital drew its entire year's supply of 312 gallons at once, and caused the raid.

ANNUAL CONGRESS ON MEDICAL EDUCATION.—The Annual Congress on Medical Education, Medical Licensure and Hospitals, was held in Chicago, February 15-18, 1926. The topics discussed may be summarized as follows: hindrances to the university action in medical education; the reactions to the methods of medical education; saving time in education in high school, college, and the medical school; graduate medical education; the importance of research in educational institutions; an internship as part of a medical education; various subjects of interest to the federation of state medical boards, including annual registration of physicians, and the objects and relation to medical licensure of the new commission on medical education; individual versus group responsibility for the care of the hospital patient; and the adaptation of medical education to changing clinical practice. Any one interested in this session will find abstract reports of the meetings in the *Journal of the American Medical Association,* beginning Saturday, February 6, 1926.

TWELFTH ANNUAL MEETING OF MEDICAL WOMEN'S NATIONAL ASSOCIATION.—The twelfth annual meeting of the Medical Women's National Association will take place April 18-19, at Dallas, Texas, in conjunction with the American Medical Association meeting. The headquarters of the M. W. N. A. will be the Hotel Baker. Dr. May Agness Hopkins, Medical Arts Building, Dallas, Texas, is the chairman of the Committee on Arrangements.

Women intending to go to this meeting should make reservations promptly, either through Dr. Hopkins or directly at the Baker Hotel, as there will be a big crowd there. Hotel rates are reasonable, a double room with bath averaging $6.

The terms for railroad transportation should be looked up in the *Journal A. M. A.,* but in many places where there are large numbers of members of the Medical Women's National Association, special cars for the women may be run. Medical women passing through New Orleans are specially invited to stop over there, and will meet with a cordial welcome from the New Orleans medical women, represented by Dr. Elizabeth Bass, 3513 Prytania St., who is president of the Women Physicians of the Southern Medical Association.

The Texas women, coöperating with the chairman, Dr. Hopkins, are making most attractive arrangements for the meeting. All medical women, whether members of the M. W. N. A. or not, are most cordially invited to participate in this meeting.

NEW YORK'S MEDICAL CENTER.—A year of construction work finds the vision of a great Medical Center in New York approaching realization. Ground was broken for the first unit of the Medical Center on January 31, 1925. This is the combined building which will house the Presbyterian Hospital, Sloane Hospital for Women, and the College of Physicians and Surgeons. It will cost upwards of $10,000,000. Adjoining the Presbyterian-Sloane combined hospital is the Harkness Private Patient Pavilion, a $1,500,000 structure donated by Mrs. Stephen V. Harkness and her son Edward S. Harkness. Work on the Pavilion has proceeded rapidly, and its outer shell is practically finished.

The medical college will have thirteen full stories and a tower. It will be connected with the hospital by an axis of the same height. Steel has been erected for the first four floors where the Departments of Administration, Public Health, Physiology, and Biochemistry will be located.

Wide interest is being displayed in the New York State Psychiatric Institute and Hospital which will be one of the institutions of the Center. It will be used by the State for research in the causes and treatment of mental disease. Only cases of special scientific interest will be housed in the Psychiatric Institute, others being sent to the regular State Hospital. The Vanderbilt Clinic, now at Sixtieth Street and Tenth Avenue, will be a part of the Medical Center Outpatient Department, excavation for which has begun. Sketch plans are being developed for the Neurological Institute, another hospital of the Medical Center. The Institute is now located on East Sixty-seventh Street. A building program is being developed for he Babies' Hospital, which will also move to the Center.

It is expected that the institutions of the Medical Center will be in operation late next year.

BOOKS RECEIVED

PYGMALION or The Doctor of the Future. By R. M. Wilson, M.B., Ch.B. New York: E. P. Dutton & Company, 681 Fifth Avenue. Price $1.00.

THE PRINCIPLES AND PRACTICE OF ENDOCRINE MEDICINE. By William Nathaniel Berkeley, Ph.D., M.D., recently Attending Physician at the Good Samaritan Dispensary, New York. Illustrated with 56 engravings and 4 colored plates. Philadelphia and New York: Lea & Febiger, 1926. Price $4.50.

FOOD FOR THE DIABETIC. What to eat and how to calculate it with common household measures. By Mary Pascoe Huddleson, Consulting Dietitian, with an introduction by Nellis Barnes Foster, M.D. Second edition revised. New York: The Macmillan Company, 1926. Price $1.25.

PSYCHOANALYSIS AND BEYOND PSYCHOANALYSIS. By Leonard L. Landis, M.D., formerly Assistant Clinical Instructor at Post-Graduate Hospital and the University of New York Internal Medicine Department; etc. Published by the American Association of Independent Physicians, 1924.

THE FOOD VALUE OF THE BANANA. Compiled by Skinner, Sherman, and Esselen, Inc., Consulting Chemists. With foreword by Franklin W. White, M.D., Instructor of Medicine, Harvard University. W. M. Leonard, 394 Atlantic Ave., Boston, Massachusetts, 1926.

HEADACHE. Its Causes and Treatment. By Dr. Thomas F. Reilly, Sometime Professor of Medicine, Fordham University, Attending Physician, Bellevue and allied hospitals, Fordham Division, and at St. Vincent's Hospital. Philadelphia: P. Blakiston's Son & Company. Price $3.00 net.

POTTER'S COMPEND OF MATERIA MEDICA, THERAPEUTICS, AND PRESCRIPTION WRITING, with especial reference to the physiological action of drugs. By A. D. Bush, B.S., M.D., Professor of Pharmacology, Emory University. Ninth edition, revised. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price $2.00 net.

EARS AND THE MAN. Studies in social work for the deafened. By Annetta W. Peck, Estelle E. Samuelson, and Ann Lehman. With an introduction by Wendell C. Phillips, M.D., President-Elect of the American Medical Association. Philadelphia: F. A. Davis Company, 1926. Price $2.00 net.

PRACTICAL HELPS IN THE STUDY AND TREATMENT OF HEAD INJURIES. By Adolph M. Hanson, M.D., formerly Neurosurgeon to Evacuation Hospital No. 8, American Expeditionary Forces. With 91 illustrations. Boston: Richard G. Badger, Publisher, The Gorham Press. Price $3.00.

NONSURGICAL TREATMENT OF DISEASES OF THE MOUTH, THROAT, NOSE, EAR, AND EYE. By Thomas

(Concluded on page xiv.)



Growing Field for Use of Iletin (Insulin, Lilly)

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BOOKS RECEIVED

(Concluded from page 426.)

H. Odeneal, M.D., Otologist, Rhinologist, Laryngologist and Ophthalmologist to the Beverly Hospital Corporation, Beverly, Mass.; Massachusetts State Infirmary; North Reading Tuberculosis Hospital. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price $4.00 net.

INTESTINAL TUBERCULOSIS, Its Importance, Diagnosis, and Treatment. A study of the secondary ulcerative type. By Lawrason Brown, M.D., Chairman of the Medical Board of the Trudeau Sanatorium, Saranac Lake, New York, and Homer L. Sampson, Roentgenographer of the Trudeau Sanatorium, Saranac Lake, N. Y. Illustrated with 112 engravings. Philadelphia and New York: Lea & Febiger, 1926. Price $4.00.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

ULTRA-VIOLET RAYS IN THE TREATMENT AND CURE OF DISEASE. By Percy Hall, M.R.C.S. (Eng.), L.R.C.P. (Lond.). St. Louis: C. V. Mosby Co., 1924.

Introductions to this 110-page book are contributed by Sir Henry Gauvain, M.D., Medical Superintendent, Lord Mayor Treloar Cripples' Hospitals; and Leonard E. Hill, M.B. (Lond.), Director, Department of Applied Physiology and Hygiene, National Institute of Medical Research, London.

The volume is intended not only for the medical practitioner, but also for the intelligent layman, and is of very real value in an understanding of the nature of the actinic rays and the well-nigh miraculous results secured by their use. Attention is called to the danger of the smoke nuisance—principally the cutting off of a large part of the therapeutic rays of the sun. Case reports are cited, and the results of a light clinic established by Dr. Katherine Gamgee at Hull, England, are described.

The prediction has been made that within ten years we shall be using light as an adjuvant in the treatment of nearly all disease. It behooves every physician, therefore, to acquaint himself with the subject, and the reviewer recommends this volume as a good one with which to start.

SOME FUNDAMENTAL CONSIDERATIONS IN THE TREATMENT OF EMPYEMA THORACIS. By Evarts A. Graham, A.B., M.D., member of Empyema Commission U. S. Army; Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief, Barnes Hospital and Saint Louis Children's Hospital. The Samuel D. Gross Prize Essay of the Philadelphia Academy of Surgery in 1920. The C. V. Mosby Company, 1925.

This 93-page essay does credit to the judgment of those who awarded it the Samuel D. Gross prize. It suggests that more clinicians should steal a few hours from the bedside to devote to pure science.

The work is condensed and to the point. Each subject is considered under a distinct subhead, making reference quick and easy. The major part—50 pages—of the essay considers results obtained in dogs in conditions of experimental perverted physiology of the lungs and pleura. It includes studies in open and closed unilateral pneumothorax; bilateral pneumothorax; lung density in pneumothorax; experimental empyema; experimental pneumonia; vital capacity; intrapleural pressure; and the effects of mediastinal adhesions.

(Continued on page xvi.)

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BOOK REVIEWS

(Continued from page xiv.)

The author proves that the accepted idea of the compensatory expansion of the sound lung in unilateral pneumothorax is erroneous, but that both lungs are compressed.

The chapter on "Prevention of Chronic Empyema" names Dakin's solution as the best solvent of the contracting exudate. The nutrition of the empyema case is emphasized. The seven pages of discussion and summary are practical jewels.

The addendum adds little to the principle stated in the essay proper.

The author presents indications for treatment of empyema based on his laboratory experiments and wartime experience. These indications, followed in the U. S. Army camps during the war epidemic, decreased the mortality from 48% to 4.3%.

Every general surgeon should read the seven pages of summary and conclusion. He would then read the other 86 pages.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Topics of Interest to Students and Practitioners. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. Volume III. Thirty-fifth Series, 1925, pp. 309. Philadelphia and London: J. B. Lippincott Company.

This volume maintains the high standard of authoritative treatment of all subjects in the papers presented. The discussion of "The Acute Abdomen" by John B. Deaver, "Surgical Dyspepsia" by Edmund Horgan, and "Right-Sided Abdominal Pain" by E. W. Lipschutz, constitutes a rich symposium. There is much information as to the "Treatment of Angiomata in Infancy and Early Childhood" in the article by Stafford McLean and A. Benson Cannon. In the section on medicine, J. B. Collip, Ph.D., has a good article on "The Internal Secretion of the Parathyroid Glands." O. S. Wightman gives food for thought in his discussion of "Vessel Changes in the Heart Muscle in Relation to Cardiac Degeneration." Paul A. O'Leary of Rochester, Minn., has an article on "Malaria as an Adjunct in the Treatment of Neurosyphilis" that substantiates the recent reports as to favorable results. John Carroll, of New York City, emphasizes the effect of syphilis in causing cardiorenal diseases, especially as it affects the aorta. Edward Lodholz, of Philadelphia, has a thoughtful article on "Fear." W. C. Stirling, of Washington, D. C., has a good article on "Subparietal Traumatism of the Kidney" which offers many practical suggestions in its differential diagnosis. Benjamin Jablons, of New York City, has a splendidly written monograph on "Thrombo-Angiitis Obliterans," accompanied by a bibliography which brings this matter well up to date. Edward Weiss, M.D., does well to point out "The Practical Application of Recent Advances in Pathology" as the tendency in former years had been too much along the line of pathologic findings without making any direct clinical application therefrom. There are three radio talks that were given under the auspices of The Philadelphia County Medical Society which make interesting reading.

On the whole, the entire volume is well worthy of reading and preservation as a good addition to this very popular work.

EYE SIGHT CONSERVATION SURVEY. By Joshua Eyre Hannum, M.D. Published by The Eye Sight Conservation Council of America, Times Building, New York City.

An extensive and splendid compilation of data on this important subject has just been published by the Council as *Bulletin No. 7.* It is most gratifying to know that there is such widespread interest and coöperation between the medical profession and other scientific and

(Continued on page xviii.)

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Wanted.—Copies of the Pennsylvania Medical Journal for August and December, 1920; June, 1921; and June, 1922. Fifty cents apiece will be paid on receipt of these numbers by the ATLANTIC MEDICAL JOURNAL, 230 State St., Harrisburg, Pa.

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BOOK REVIEWS

(Continued from page xvi.)

lay organizations in the endeavor to improve and conserve the eyes of the nation. This is shown in the various investigations so ably and thoroughly carried on in educational institutions, commercial establishments, and in the various industries and allied organizations throughout the country, as well as in the results of the original research and investigations by the Council.

The statistics presented of defective vision among school children are considered as a challenge to the social system. Simple visual-acuity tests revealed that 25% of the school children in the public schools of the United States have manifest defects of vision and symptoms of eyestrain. This small volume contains a wealth of statistics. The deductions are based, not on hundreds, but on millions of individual examinations. In the introduction one finds these very tersely stated reasons for this publication. The report is intended to show some of the results of past and present practices, investigations, and experimentations as related to eyesight conservation. The aim has been to present pertinent facts gathered from the review and the surveys in the form of a brief résumé of the most important literature and findings.

It is hoped that this book may be instrumental in arousing greater interest in a subject of vital importance to society, and that it may stimulate greater effort to further the cause of eye care.

METHODS IN SURGERY. By Glover H. Copher, M.D., Instructor in Surgery, Washington University School of Medicine; etc. St. Louis: The C. V. Mosby Company, 1925. Price $3.00.

Dr. Copher gives us a concise handbook for the management of the surgical patient. Each step is considered in an orderly manner, from the time the hospital door opens to admit the stretcher until it closes to send forth a surgical triumph or material for the mortician.

From the clinical standpoint, the work considers: laboratory methods, preoperative treatment, surgical-ward routine, operating-room routine, postoperative care, including emergencies in general surgery, and the special care of head, neck, plastic, gynecologic, genito-urinary and neurosurgical conditions. The chapter on surgical diet is concisely covered by a practical dietitian. From the clerical standpoint, the work covers: history taking, house and dispensary records. There is an appendix of illustrated blank forms to meet every hospital contingency.

Dr. Copher's compilation is one of the very best guides for the ever-changing army of hospital interns, and places a manual of concise technical data in the hands of those who need it most—the members of the hospital staff.

MODERN MEDICINE. Edited by Sir William Osler; re-edited by Thomas McCrea, M.D., assisted by Elmer H. Funk, M.D. Volume I. Lea & Febiger, Philadelphia and New York.

Osler's *Modern Medicine* has been too long and favorably known to need any words of introduction. The introduction to Volume I, "The Evolution of Internal Medicine," by Dr. Osler, is a learned account of the development of internal medicine, and informative to

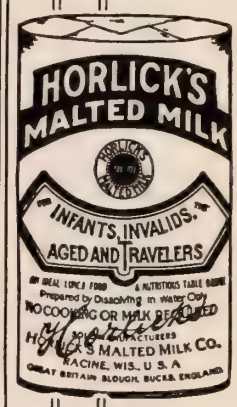
(Concluded on page xx.)

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BOOK REVIEWS

(Concluded from page xviii.)

any reader. The introduction to the study of infectious diseases treats of infective agents, ways and means of infection, toxins and microbes, antibodies and serum therapy, and specific inoculations. "Typhoid Fever" by Dr. McCrea is a complete volume on this disease, and nothing is left unsaid about the subject and all its possible complications. "Lobar Pneumonia" is equally fully written. "Tuberculosis" is exhaustively handled. For the library no other book is needed on these three subjects. Satisfactory chapters on toxemia, septicemia and pyemia, tetanus, erysipelas, meningococcus infection, whooping cough, gonococcus infection, poliomyelitis, diphtheria, scarlet fever, and other infective diseases are contained in this volume. It is a well worth while book, and a favorable introduction to the volumes to follow.

METHODS AND PROBLEMS OF MEDICAL EDUCATION (Second Series). Division of Medical Education, The Rockefeller Foundation, 61 Broadway, New York, 1924. Pp. 118.

This brochure covers a "Sanitary Survey of Rochester, New Hampshire," by Shields Warren, a then student at Harvard Medical School. The work represents a very thorough study on the part of the author, and is worthy of use as outlined for similar studies. It is questionable whether education of the medical student of today should demand such executive work on the side that surely must detract from the real purpose of medical education—that of instructing students in the fundamentals of medicine, surgery, and obstetrics. This work would far better be deferred for graduate study.

THE ART AND PRACTICE OF MEDICAL WRITING. By George H. Simmons, M.D., Editor and General Manager Emeritus, American Medical Association; and Morris Fishbein, M.D., Editor, the *Journal of the American Medical Association*. Chicago: Press of the American Medical Association, 1925.

Within a compass of 163 small pages, the authors have presented a comprehensive outline of the rules and customs of the American Medical Association publications. All medical authors are strongly urged to obtain a copy and study it carefully. It cannot fail thus to improve the quality of the medical literature coming under its influence.

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Symposium on Neurological Surgery*

THE GLANDULAR TREATMENT OF PITUITARY TUMORS AND HYPERPLASIAS

WALTER TIMME, M.D.
NEW YORK, N. Y.

In order that a more or less rational treatment may be devised for the various types of pathological enlargements of the pituitary body, it is, of course, quite necessary to classify these disorders. Such classification, however, is difficult, for we have little basis for it short of the comparatively few autopsies and the reports on the pathological tissues removed at operation. Heretofore, it has been simply a matter of determining whether a mass (either of or about the hypophysis) existed that gave pressure or metabolic symptoms or both. If determined in the negative, no operative interference was undertaken; if in the affirmative, surgery was evoked for relief. But the surgical results were not of such a nature as to call forth unbounded confidence from the prospective patient, and so surgery, except in the most extreme cases, was frequently refused. These patients then turned for relief to nonsurgical methods. So it happened that therapeutic attacks were made upon the disease processes on the barest conceivable theoretical grounds, without any but the merest hope of a chance of success. And in almost all these cases the condition became progressively worse and terminated fatally.

Then came a series of cases reported since 1915 by Waldeck (1912), Clothier and Dewitte, Leber (1915), Elsberg, Krug, deSchweinitz, and myself (1916) in which the treatment that led to a successful issue was either pituitary substance administered by mouth, or pituitary hypodermically, or both, together with occasional doses of thyroid. In these cases, there resulted not only amelioration of the symptoms, but apparent actual cure. Indeed, in my case, the outstanding features of nausea or vomiting, beginning acromegaly, intense headache, bitemporal diminution of the visual fields, sugar metabolic disturbances, and enlargement of the sella turcica had left no choice in the matter of diagnosis, and operation was deferred only because of incidental reasons. On glandular treatment, undertaken because of the necessity of relieving her intense headaches, the headaches disappeared, the visual fields became again normal, the other symptoms receded, and the patient is today, some ten years later, completely well, married, and the mother of several children. The treatment in this, my first case, consisted of the administration of whole-gland pituitary substance, varying from one-half grain to three grains per day; injections of pituitrin for two or three days a week; and later, one-half to one grain of thyroid once daily. For one or two weeks a month, two grains of lutein were likewise administered, as her menses had become much delayed. They returned to normal as the improvement in other symptoms appeared.

The same treatment, applied to other cases of probable pituitary neoplasm giving the same or similar symptoms, curiously had no effect whatever upon the growth or upon the symptoms. Apparently, there must be some difference in the nature of the tumor mass in these cases that causes such critical differences in their reactions to the same therapeutic attack. It is just at this point that the necessity arises for a proper classification, so that the cases which may be benefited by treatment may at once be separated from those necessitating surgery. Let us go into this matter further.

From a study of some twenty cases, in the course of the last ten years, in which the diagnosis of pituitary tumor varied from doubtful to certain and in which glandular treatment was eminently successful, as compared with a rather large number in which failure attended a therapeutic attack, there have been certain similarities strikingly evident in the successful ones. In each of these cases the pituitary disturbance followed, either (1) some other glandular difficulties, such as castration, puberty, menopause, or

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

ovariectomy; or (2) arose in those cases that have been described by me as belonging to the compensatory-syndrome group (namely, those in which the pituitary gland presumably becomes hyperplasic in order to compensate for the deficiencies superinduced by a status hypoplasticus with deficient adrenals, which cases have the earmarks of status thymico-lymphaticus); or (3) developed in a group formed by those patients residing in goiter regions. The inactivity of the thyroid in these produces, again, a compensatory enlargement of the pituitary, with all the signs (metabolic and pressure) that *bona fide* pituitary tumors produce. The following interesting and suggestive types are cited as representative of these three groups:

First Group.—Several examples of pituitary disturbance following hysterectomy as it was practiced fifteen to twenty years ago for many minor complaints (the so-called hysteria, among others), and giving many symptoms of neoplasm, come to mind. Interesting in this connection is one case, operated upon by Lawson Tait, in which headache, acromegaly, and some contraction of the fields developed many years after an abdominal operation—in fact, at the time the normal menopause would have arrived. In this case, as in all those that follow ovarian disturbances, much benefit resulted from administration of various forms of ovarian glandular products in addition to pituitary medication. Destruction or ablation of the testicles may occasionally likewise produce an enlargement of the pituitary gland resembling a neoplasm. While these disorders do not succumb to testicular glandular therapy, yet the administration of pituitary extract and pituitrin usually will keep the hyperplasia in check.

Second Group.—In this group, the pituitary becomes hyperplasic in the course of compensation for status hypoplasticus. These patients are frequently found to have large and persistent thymus glands, small cardiovascular systems, and small adrenals. They develop the intratemporal headache of pituitary disease, a large and eroded sella, giantism, and occasionally mild degrees of choked disk and contraction of the fields. The treatment as outlined by me elsewhere, consists in the administration of small doses of iodid, together with thyroid and pituitary substance (a combination of one to four grains of the anterior lobe and one-tenth to one grain of the whole gland). In my experience, the pituitary medication per os, in order to be effective, ought to be given at least two hours after meals. Pituitrin, which may be used in conjunction with feeding of the glandular product, has many disadvantages when given hypodermically. It causes, at first, intense pallor and prostration with syncope, and if given over long periods of time, marked asthenia. During the past two years, we have been giving it in drop doses by nostril in a medicine dropper, or in the retropharyngeal space with throat applicator. Excellent results are obtained by this method, even in those cases with the intense polyuria of diabetes insipidus.

Third Group.—One patient of this group, truly representative and of intense interest from several glandular standpoints, was a woman of forty-two, highly intelligent, living in central New York State—a goiter region. She began to complain in 1918 of intense headaches, intratemporal in character, accompanied later by nausea and vomiting, a gradually increasing adiposity, lethargy, confusion of thought, loss of memory, and progressive loss of vision. Her visual fields, examined at the Cornell Clinic at Ithaca, were found bitemporally hemiopic, and the sella turcica enlarged and eroded. There seemed only one solution of the situation. These examinations were not all made at one time, but over the course of two or more years. The condition during this time became progressively worse. Dr. Martin Tinker, of Ithaca, had been asked to see the patient in view of an impending sellar decompression, and, not entirely satisfied to do the operation without first giving her the benefit of glandular therapy, he referred the case.

Our examination confirmed practically all his findings, and in addition, we determined the basic metabolic rate, which was found variable, from plus 20% to plus 5%. The patient had a slightly enlarged thyroid struma of rather boggy consistency. A skin-reaction line could not be elicited, and her subcutaneous tissue gave one the impression of a mild myxedema. To us, the case seemed clinically to be both hypothyroid and hypopituitary in its aspects, and our treatment began with the administration of small doses of sodium iodid and of thyroid in spite of the high metabolic rate. In a few weeks the headaches disappeared, the myxedematous appearance vanished, the patient lost weight, her mental confusion lessened markedly, the nausea and vomiting ceased altogether, and the visual fields gradually improved. The basal metabolic rate became *reduced* to minus 5%, and this on thyroid medication—a direct contradiction to the accepted doctrine of the relationship of thyroid activity to basal metabolism. After a few weeks, one-fourth grain of whole-gland pituitary substance, twice daily, was added to the other medication, and pituitrin was occasionally given hypodermically, but produced such asthenia that it was discontinued. On varying dosages of these three medicaments, the patient made a complete recovery, so that today she is well in every respect, even including her visual fields. Of great interest is the added fact that one of her children was beginning to show a pituitary disorder, which succumbed to the mere administration of iodin.

The interpretation of this case, of course, would be that the pituitary symptoms were produced by a compensatory enlargement (hyperplasia) due to thyroid deficiency, giving all the signs of pressure produced by a neoplasm. The basal metabolic rate is interesting, as it does not conform to the usual low rate of the myxedematous patient. Perhaps it was kept above the normal level by an overactive pituitary. At any rate, the case is a classical example of the vagaries that may be produced in the course of an iodin deficiency. Furthermore, the reduction of the metabolic rate by thyroid administration is against all rules thought to be established in this domain. The possible criticism that there was an error in the performance of the tests is negatived by the fact that the many determinations were made in different cities, in different laboratories, and by different technicians, and all were within reasonable closeness of result. To put it succinctly: a patient, coming from a goiter region, with myxedema complicated with pituitary hyperplasia, gave a high basal-metabolic rate which was lowered by thyroid and iodid medication—a paradox.

These three types of hyperplasia of the pituitary gland, then, represent the groups that may be markedly helped and even entirely cured of

their complaints by glandular medication. As each of these groups represents a pituitary mass which in every respect may produce the symptomatology of a true pituitary neoplasm, from metabolic nuances to the gravest of pressure symptoms, it is advisable that they be thoroughly studied and understood, as their differential diagnosis from neoplasm may save many an operative hazard. Occasionally, so-called benign adenomata arise in these hyperplasic tissues, and then there is no sharp line of demarcation between hyperplasia and tumor formation. True neoplastic growths of the pituitary, or in its neighborhood, can no more be influenced by glandular therapy than they can elsewhere in the body.

The three important criteria, then, that serve to distinguish these cases which have pituitary masses amenable to glandular therapeutic attack from those with true neoplastic growth are: (1) Previous operative or other critical disturbances of the gonads. (2) Status thymicolymphaticus preceding the pituitary symptoms. (3) Long-standing thyroid insufficiency, especially as found in the goiter belt with lack of iodin. Perhaps, as is more than likely, this grouping will be found to be inadequate or to need much qualification. It is but a crude beginning towards a nicer discrimination of pituitary enlargements.

When we come to the minor disturbances of the pituitary with enlargement of the hypophysis whose number is legion, and whose diagnosis on a pathological basis rather than upon a clinical one is of the utmost difficulty (especially since the epoch-making experiments of Camus and Roussy), we are at times confounded with the paradox of a pituitary glandular therapy being specific against disturbances not of pituitary origin—witness the effect of pituitrin upon diabetes insipidus. And yet, the Continental school represented by the Germans and Austrians, as we might expect, oppose the interpretation offered upon their experiments by Camus and Roussy.

One of the many disturbances credited to pituitary malfunction due to hyperplasia which is omnipresent and ubiquitous is the headache of pituitary origin. This is mentioned here only because, while it is often the precursor of pituitary hyperplasia or neoplasm, yet frequently it forms an entity apparently of its own, with recurrent attacks following intervals of complete freedom. Pituitary headaches, with their characteristic location, their frequent connection with eye-muscle and visual disturbances, their prostrating character, and their inaccessibility to attack by our fraternity, are fruitful fields for glandular therapeusis. A few diagnostic criteria may here be necessary to indicate the kind of headache which is pituitary in character and which lends itself to therapeutic management.

The patient complains of the headache as a pain *within* the head, not of compression, but of a boring or bursting or throbbing character, and movements of the head are accompanied by a subjective sensation of a mass within the head, moving in the same direction. The locus of pain is variously described as "between the temples, below the crown," "back of the eyes," or "midway between the bridge of the nose and the occiput"—all lines converging to the sella turcica. These headaches come on after undue fatigue, after fasting, during or before menstrual periods, after meals rich in carbohydrate food, after long-continued depression or chagrin, after undue sexual intercourse, and many other less notable causes. Occasionally, accompanying the headache are oculomotor disturbances with visual symptoms. These are probably due to encroachment by the enlarging pituitary body upon the cavernous sinus and its nerves (the third and fourth, ophthalmic divisions of the fifth and the sixth cranial trunk), leading to unilateral or bilateral ptosis, strabismus with diplopia, and other oculomotor disturbances.

Radiographs of the skull show erosion of the clinoid processes of the sella, or else an extremely small sella apparently enclosed or bridged by long processes. Left to themselves, these headaches persist for several decades, coming on periodically or after the intercurrent causes mentioned above. The sella gradually enlarges through the recurrent hyperplasic attacks which are connoted by the headaches until a moderate enlargement of the gland can take place without undue pressure, and then the headaches spontaneously cease. Interesting to note is the fact that these headaches are often only the indicator of a compensatory process during the course of which the pituitary becomes enlarged and overactive, and are, then, found in the same three groups of cases which have been described above in classifying pituitary hyperplasia amenable to therapy.

The therapy applicable to them is specific; namely, the administration of whole-gland pituitary substance in very small doses, from one-tenth to one-fourth grain once or twice daily, at least two hours after meals. Every fourth or fifth day the administration should be omitted. If too much extract is given, the headaches are made worse, or may even be brought on thereby. Should they be accompanied by mild hyperthy-

roid states with low-grade excitement and irritability, it is an excellent plan to give, in addition to the pituitary extract, hypodermic injections of cacodylate of soda, from three-fourths to one and one-half grain every alternate day for fifteen to twenty injections. An important point in the treatment is to discontinue the pituitary extract as soon as the premonitory signs of a headache make their appearance, and not begin again until the headache has disappeared. Of the various exciting causes mentioned above, those that are remedial should be remedied—such as going without food too long, or indulging in too much carbohydrate food. By these simple means, many so-called chronic migrainous attacks of pituitary origin may be reduced to two or three yearly.

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THE RESULTS IN X-RAY TREATMENT OF EARLY PITUITARY LESIONS

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In 1909, Gramegna,[1] of Turin, reported a case of suspected pituitary tumor in which, by x-ray treatments, he was able to produce a recession in the size of the growth, as shown by disappearance of headaches, increase in size of visual fields, and subsidence of papilledema. Eight months after the first treatment, the symptoms reappeared, and were again controlled by means of the rays. The improvement continued for six months after the second treatment. Soon afterward, Béclère, working independently, reported that he had been successful in producing a very marked amelioration of the pressure symtoms in a case of early pituitary hyperplasia.

The happy results emphasized in these two communications focused the attention of radiographers on the pituitary gland and its disorders as a possible fertile field for the use of the x-ray in treatment. It has long been known that hyperfunction of any gland may be inhibited by x-rays. The pituitary does not seem to be an exception to this rule. It is however very deeply situated within the cranium. The problem has been so to direct the x-rays that they reach the gland in sufficient concentration to affect it without causing damage to overlying or surrounding tissue. Gramegna and Béclère[2] first advised directing the rays through the mouth as the most direct approach. Later, Béclère[3]

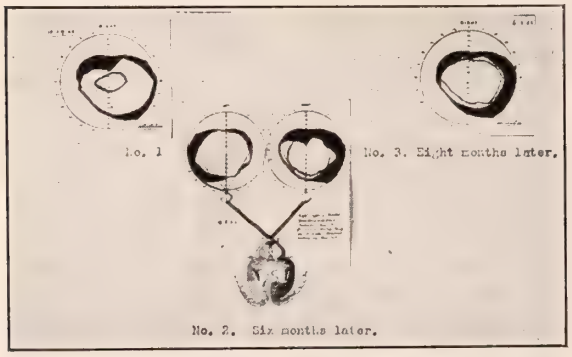


Fig. 1. Case 1. Series of fields showing the gradual disappearance of quadranopsia under radium therapy.

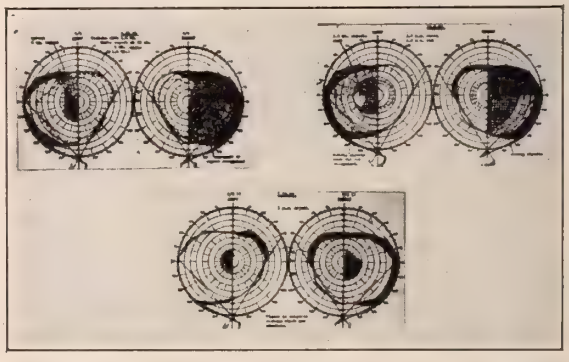


Fig. 2. Case 2. Series of fields showing improvement under x-ray treatment.



Fig. 3. Case 3. (a) Before x-ray treatment, 17 mm. (b) Five months later, x-ray treatment begun, 20 mm. (c) Ten months after treatment, lesion stationary, 21 mm.

learned by experience that by exposure through the frontal and temporofrontal regions equally effective results could be obtained.

There are two principal types of tumors arising from the pituitary gland: (1) The suprasellar tumor arising from Rathke's pouch, which

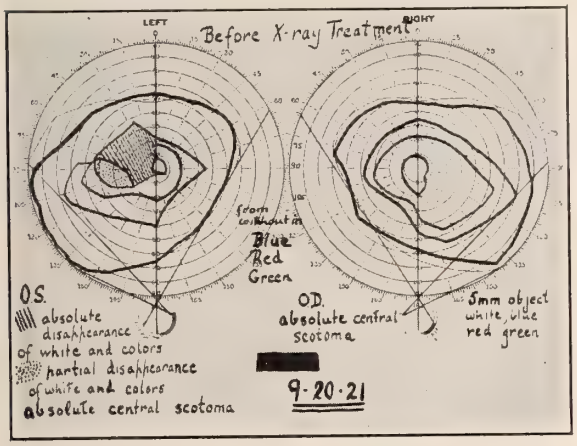


Fig. 4. Case 4. Eye fields in case of pituitary adenocarcinoma before x-ray treatment.

is almost invariably cystic, with fibrosis and at times calcification in the cyst walls. The x-ray cannot be expected to influence such a lesion in any way. (2) The simple hyperplasias and adenomatous tumors that develop in the anterior lobe of the pituitary. It has been our experience and that of others[4] that in cases in which the pathology has been determined, this variety of lesion may be prevented by x-ray therapy from redeveloping subsequent to its

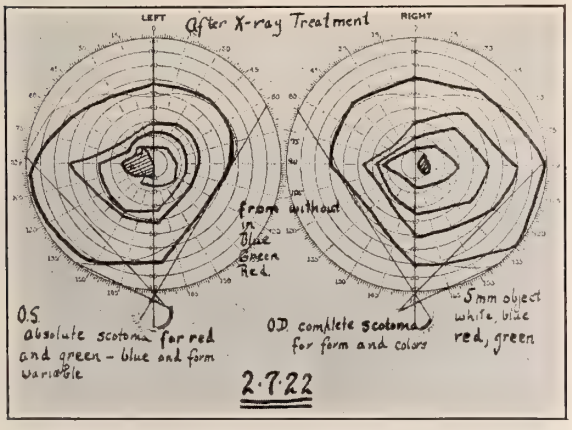


Fig. 5. Case 4. After treatment, showing improvement in vision and diminution in size of scotomata.

operative removal. It therefore seems probable that the reported cases in which the x-rays produced a shrinkage in the size of the growth, as shown by an amelioration in the symptoms, were of this character. But unfortunately there are very few reports in the literature on the microscopic pathology of pituitary lesions successfully controlled primarily by x-rays without resorting to surgical intervention. So we may judge the type of lesion only from our knowledge of the pathology of pituitary tumors in general and the character of the clinical symptoms that each variety produces.

It is an easy matter to determine the progress or recession in size of a pituitary tumor. By the degree of headache of which the patient complains, by careful retinoscopic and visual-field studies, by x-ray plates revealing the bony changes in and about the sella turcica, and by the development of acromegalic symptoms, an exact knowledge of the results of any course of treatment may be obtained.

Béclère[5] has recently reported his experiences with forty cases of primary pituitary tumor with acromegaly, treated by x-ray. In all of these he claims favorable results. In two



Fig. 6. Case 4. Enlargement of sella turcica due to pituitary growth.

of these cases, ten and twelve years respectively elapsed without return of symptoms. Flatau,[6] Biro,[7] Schaefer and Chotzen[8] report series of cases successfully treated by this method. However, none of the subjects in these last series had been followed for the same length of time as those described by Béclère.

From an analysis of the literature, certain facts stand out clearly. The primary pituitary tumors, when seen early, respond most rapidly to x-rays. Extrasellar tumors are as a rule but little affected. In patients harboring primary adenomas, the headaches are relieved, the visual acuity improved, and the field of vision may increase markedly or be restored to normal. Less frequently are the menstrual cycle and sex power reëstablished. The acromegalic symptoms are very rarely affected in any way, although

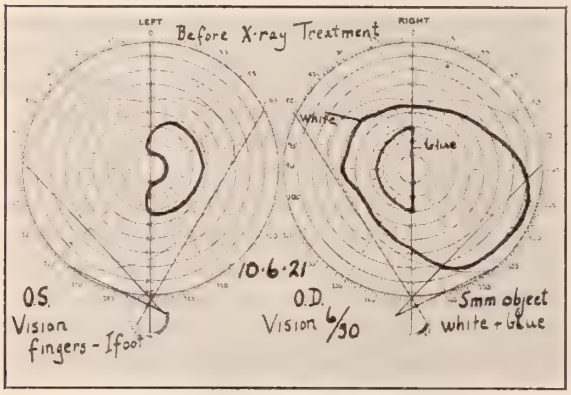


Fig. 7. Case 5. Fields before x-ray and radium treatment.

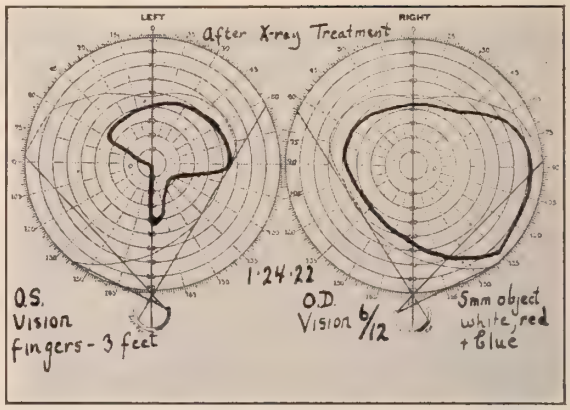


Fig. 8. Case 5. Showing improvement following treatment.

occasionally there may be some recession in the size of the extremities and the coarseness of the features. Rauschburg[10] and Strauss[11] describe a case of the adiposogenital syndrome in which the secondary sex characteristics returned following x-ray therapy. The bony deformity about the sella turcica evident in the x-ray plate is permanent, and does not become smaller under treatment.

Béclère *(loc. cit.)* gives very definite indications for and against x-ray therapy. He believes in treating early cases intensively. He continues treatment as long as he feels that he is causing a regression in the size of the lesion or is preventing further increase in its dimensions as shown by repeated visual-field examinations and subjective reports as to increase or decrease of headache. But he warns emphatically against instituting x-ray therapy in acromegalic patients in whom the condition is of long standing. He fears that following the hyperplasia of the anterior lobe there may be replacement of the functioning pituitary cells by regressive and destructive lesions. Clinically, this change is shown by increasing muscular weakness and somnolence. If treatment is continued, the few remaining functioning cells may be destroyed and death occur. For this reason, on theoretical grounds, he disapproves of x-ray treatment of patients exhibiting the adiposogenital syndrome.

Our feeling on the subject of the treatment of pituitary lesions is, briefly, as follows: If a patient presents himself with headache, visual-field defects (such as bitemporal hemianopsia) or blindness in one eye and a field defect in the other, and the x-ray shows an enlargement of the sella in the vertical plane with encroachment on the sphenoid sinus, we believe that these symptoms may be most effectively and rapidly relieved by surgery. Sellar decompression by the transnasal route is definitely indicated. Very frequently, pituitary adenomas undergo cystic degeneration as the adenomatous areas break down from pressure, and, by confluence, transform the anterior lobe into a cyst. Immediate relief of pressure on the optic nerves results from tapping such a cyst by surgical means, while it is unlikely that the x-ray will benefit the patient once a cyst has actually formed. It is of course impossible to determine with certainty the pathology present unless it is revealed by surgery. X-ray therapy may not be effective at once, and while this method of treatment is being employed the vision may be lost; or the x-rays may even aggravate the symptoms and cause sudden blindness, as has occurred in our experience, and has been reported by Bailey *(loc. cit)*. Furthermore, sellar decompression, by allowing the tumor to drop into the sphenoid sinus, makes it more accessible to post-operative radiation, for a tube of radium may be passed through the nares and placed directly against the lesion. It is our custom to follow every operative procedure by x-ray applications.



Fig. 9. Case 5. Enlargement of sella turcica due to pituitary growth. Instrument in nares is a probe fitted to hold a radium tube. Radium may be placed in close juxtaposition to pituitary fossa by this procedure.

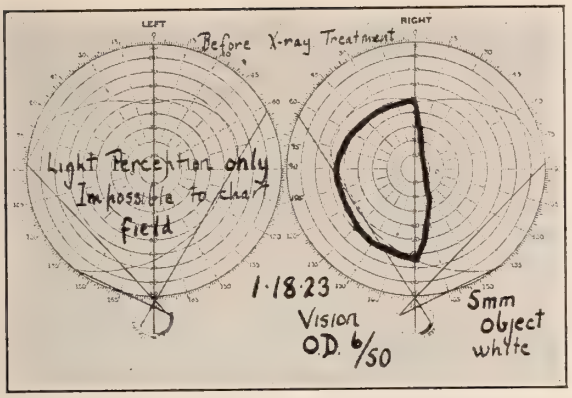


Fig. 10. Case 6. Visual fields before radiation.

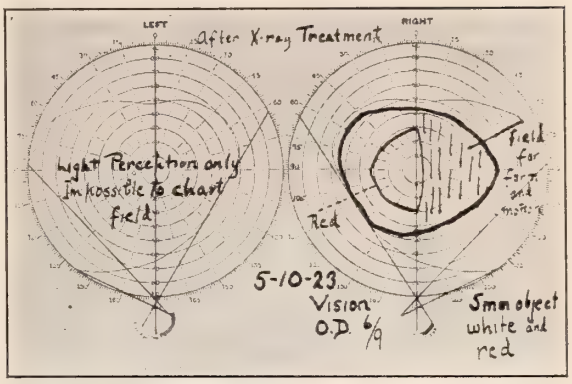


Fig. 11. Case 6. Visual fields after radiation.

In the early cases, however, where headache and glandular symptoms are mainly emphasized, where vision is not greatly interfered with nor the visual fields much encroached upon, and where the sellar deformity is not extreme, we believe that x-ray therapy should be given a thorough trial before resorting to surgical measures.

In order better to illustrate the type of subject in whom we feel that it is advisable to use x-rays, and in whom this treatment has apparently been effective, the following cases are briefly reviewed.

Case Reports

(1) E. S., a white female aged 19, since puberty had had headache, at first every three months, and finally every week. Two months before reporting to me, blurring of vision in the right eye had been noticed. There had been no change in weight, and no menstrual disturbance. The physical and laboratory examinations were entirely negative. The x-ray showed both head and pituitary negative. The pituitary measurements were: anteroposterior, 10 mm.; depth, 7½ mm. The basal-metabolic rate was plus 1%. Eye examination revealed some haziness of the lower margin of the optic disk in the right eye; otherwise negative. (See Fig. 1 for chart of visual fields.) Vision: O. D. 6/7.5; O. S. 6/5. Under x-ray treatment, the headaches disappeared, vision in the right eye increased to 6/5, and quadranopsia in the right visual field disappeared.

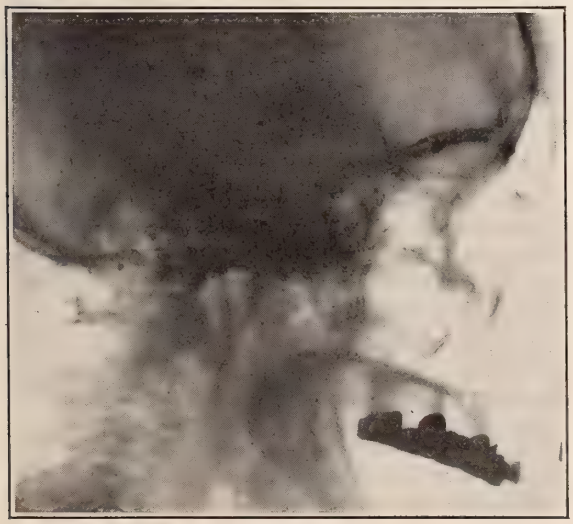


Fig. 12. Case 6. Enlargement of sella due to pituitary growth.

(2) M. E. A., a white female of 18 years, suffered with severe bitemporal headaches. One month before we saw her, diplopia developed. She had had the usual childhood diseases, and malaria at 9 years of age. Her menses were established at 12, but had stopped at 15. Physical and neurological examinations were negative except for partial paresis. Blood, urine, and serology were negative. There were no glandular symptoms, and the basal-metabolic rate was minus 20%. The x-ray showed a large, deep sella, with erosion of the posterior clinoid, 15 by 11 mm. The eyes showed gross bitemporal quadranopsia. Vision: O. D. 20/15; O. S. 20/50. The disks were a pale, waxy yellow. Perimetric tests showed bitemporal hemianopsia. Under x-ray treatment the headaches disappeared; the fields became practically normal, though a small paracentral scotoma is still present; diplopia disappeared; and vision in the left eye improved from 20/50 to 20/15. Amenorrhea still persists.

(3) W. F. B., a white female aged 32, complained of headaches which commenced after a menstrual disturbance a year before I examined her. At the same time, the hands and feet had commenced to increase in size, and sexual desire was lost. The menses had begun at 13, with amenorrhea at 15 for three months, and at 24 constant flooding for six months. The patient had three children alive and well, and stated that the members of her family were all large and big-boned. Physical, neurological, and laboratory examinations were all negative, except for a typical acromegaly. There was no visual disturbance, the retinoscopic examination was negative, and the visual fields were full. The basal-metabolic rate was minus 9%. The x-ray showed a large sella, 20 by 20 mm., and marked encroachment on the sphenoid sinus. Arrest of enlargement of the pituitary fossa followed x-ray treatment, together with decided diminution in the headaches, and an increase in vigor. The basal metabolism rose to plus 6% and the patient stated that she felt much better.

(4) T. G. O., a white female aged 48, complained of loss of vision, and on examination bitemporal hemianopsia was discovered. Four years before, she had had a slight epistaxis, and blood had appeared in mucus from back of the nose. Two years later, there was an increased nasal catarrh. The physical examination was

negative, but nasal examination revealed a growth protruding from the nasopharynx, which was diagnosed as adenocarcinoma. The x-ray showed a large, deep pituitary fossa. Eye examination revealed bilateral optic atrophy, with yellow disks. (See figures 4, 5, and 6.) A diagnosis of pituitary tumor was followed by x-ray and radium therapy, and there was visible decrease in the size of the growth in the posterior nares,

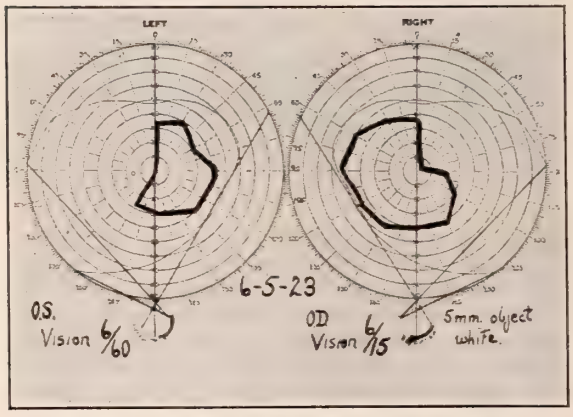


Fig. 13. Case 7. Visual fields before radiation.

improvement in vision, and diminution in size of scotomata.

(5) S. G., white female, aged 48, on reporting to me stated that five years ago her vision began to fail, and one year ago had failed entirely in the left eye, while the right was much impaired. She was rather obese, but otherwise the physical examination was negative. The x-ray showed a large, deep sella. The right eye responded promptly to light and the capillarity was good, although the disk was somewhat pale. The left eye responded very slightly to light, and the disk was markedly atrophic. (See figures 7, 8, and 9.) A diagnosis of primary pituitary tumor was followed by

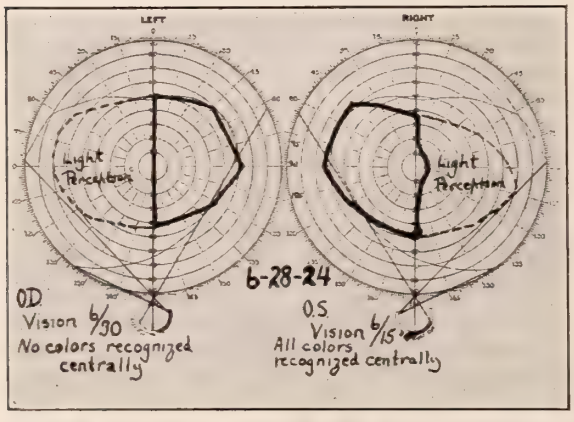


Fig. 14. Case 7. Visual fields after radiation.

an unsuccessful attempt at transphenoidal hypophysectomy. X-ray and radium treatment resulted in an improvement in vision and the visual fields, and the increase in the size of the growth was checked.

(6) M. L., a white female aged 49, came to me complaining of failing vision. Ten years before, she had had severe frontal headaches. Six years before, visual failure commenced, and a year later an artificial menopause developed. The next year, she developed diplopia and loss of vision in the left eye, and two years before I saw her, the headaches had ceased. Vision in the right eye was becoming worse, and she had gained 32 pounds in weight. She had been pregnant twelve times. The physical examination was negative except for obesity. There were no glandular symptoms, but the basal metabolism was minus 19%. The x-ray showed slight sellar enlargement, an anteroposterior measurement of 12 mm., and a depth of 13 mm. The ocular rotations were full, but the left eye did not react to light, and the disk was yellow and atrophic. The right eye reacted to light, but the disk was also yellow and atrophic, though the capillarity was better than in the left eye. (See figures 10, 11 and 12.) Primary pituitary tumor was diagnosed, and treated by x-rays and radium. The vision in the right eye was improved, and the visual fields increased in size.

(7) N. J., a white female aged 70, complained of failing vision of a year's duration. She was short and obese, but otherwise the physical examination was negative. The basal-metabolic rate was plus 10%. The x-ray showed a skull of unusual thickness throughout, and a pituitary fossa markedly increased in size and



Fig. 15. Case 7. Enlargement of sella due to pituitary growth.

depth. Visual examination revealed bilateral atrophy and waxy-yellow discoloration of the disks. (See figures 13, 14, and 15.) Primary pituitary tumor was diagnosed and treated by the x-rays, resulting in an increase in visual acuity and no change in the visual fields during sixteen months, indicating that the growth of the tumor was checked.

Summary

These seven cases of pituitary lesions are presented as examples of the type of case in which x-ray treatment proved effective in reducing the size of the tumor or checking its growth. Headache was not a prominent symptom in this series. In many of the patients, the condition appeared after the onset of the climacteric, so that it could not be determined whether or not this therapy might have resulted in a return of the menstrual cycle. In every case, the visual fields were enlarged, and the visual acuity increased. As was to be expected, there was no regression in the bony changes about the sella.

Based on this small series of cases, x-ray treatment seems to be indicated in primary pituitary lesions,

either as an adjunct to surgery, or as a substitute for operative intervention in those cases in which there seems to be a contraindication to sellar decompression.

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THE SURGICAL MANAGEMENT OF PITUITARY LESIONS*

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For convenience of reference and study, the cases in our pituitary register, now numbering 177, are classified as (1) those of pituitary dysfunction without apparent enlargement of the pituitary body, (2) suprasellar lesions, (3) pharyngeal-pouch tumors, and (4) primary pituitary or intrasellar lesions. Of the latter, there are in our register 102 cases, and the vast majority of these are adenomata. Of this number, 53 have been exposed by the transphenoidal operation, with a mortality rate now under 4.5 per cent.

The clinical expression of the pituitary adenoma is by no means constant; quite the contrary. One of the striking characteristics of the symptomatology is its wide range of expression. While the adenoma takes its origin from the anterior lobe, there is in many of our cases evidence of posterior-lobe dysfunction; that is, if you chose so to classify such symptoms as amenorrhea, accession of fat, somnolence, and the like. But there is a surprising number of cases in which either there is no evidence, or it is very trivial, of pituitary dysfunction. In two-thirds of the 102 cases of primary pituitary lesions presenting themselves at the Neurosurgical Clinic, there were no definite stigmata of endocrine disturbance, whether of anterior or posterior lobe, such as might classify the patient as of the acromegalic or Fröhlich type. In 71 per cent failing vision was the *first and predominant symptoms,* and in *27 per cent, headache.* It is, therefore, quite apparent that of pituitary adenomata which find their way to a neurosurgical clinic, the larger number have given rise to pressure phenomena, headache, or failing vision, the smaller number to endocrine dysfunction.

The adenoma, as we see it on the operating table, appears generally as a symmetrical growth, usually smooth on its surface, but sometimes granular, not unlike the surface of a raspberry. In more than one instance, however, I have seen what appear on the surface as small protuberances not unlike an extramural fibroid on a small scale, measuring one-fourth to one-half cm. in diameter. These protuberant bodies are of no practical significance except when they are in direct contact with one or the other of the optic nerves. One can readily understand how the pressure of these small excrescences on one or the other surface of an optic nerve may affect the fields.

In discussing the operative problems of the pituitary adenoma, one should keep uppermost in mind this fact: that in most instances we are confronted with a comparatively uniform lesion; that is, uniform in size, shape, and anatomical relationships. The pituitary adenoma, when it reaches the surgeon, is about the size of an English walnut, and well encapsulated. Being essentially benign, it would seem as though, from the surgical standpoint, we were confronted with a comparatively simple problem. Given a tumor completely encapsulated, intracranial but entirely extracerebral, that is without the cerebral mass, one might be justified in expecting a high percentage of cures with a low mortality rate. To a certain extent this is true. The mortality rate is low, but there are certain factors, some anatomic, some physiologic, some relating to the duration of the lesion, which one or all may interfere with a perfect end result. As we present these factors, we must keep constantly in mind that the paramount question in pituitary surgery is the choice of approach—whether by the transphenoidal or transfrontal routes.

The results of operation will differ according to whether the lesion is of short or long duration. Our experience in the operating room, in most instances unfortunately, is with the latter, the lesion of five, ten, fifteen, twenty, or even twenty-five years' duration. The differences between the lesion of recent and long-standing de-

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velopment are these: as time goes on, the capsule of the gland becomes thicker, firmer, and less yielding. This is a change of very practical import, because if the operation is an intracapsular evacuation and not a complete extirpation, the density of the capsule is an obstacle to the collapse so requisite if relief of pressure upon the overlying optic tract and chiasm is to be obtained and maintained. To obtain this relief of pressure by the conventional subcapsular operation, it must be implied that the capsule will collapse sufficiently to accomplish our purpose after the evacuation of the adenomatous contents. In some transfrontal exposures, I have seen capsules so dense and resistant that considerable pressure had to be made upon the superior surface to displace it below the level of the optic tracts and chiasm.

Another factor distinguishing the recent from the long-standing pituitary lesion, is the degree of fixation. As time goes on, the pituitary adenoma becomes more or less firmly embedded in the pituitary fossa. The periosteal coat of the floor of the fossa atrophies, the bone may become eroded, and the capsule become so firmly adherent to the osseous floor of the pituitary fossa that it is dislodged with difficulty. Not only does the capsule become adherent to the walls which surround it, but to other adjacent structures as well, more particularly the cavernous sinus. In describing their attempts at complete extirpation of the adenoma, certain writers recount their experiences with profuse hemorrhage, presumably from a lacerated cavernous sinus, hemorrhages so profuse as to be controlled only by large tampons of gauze left *in situ* for 24 to 48 hours. The intimate relationship of these vascular channels must not be overlooked when comparing the relative risks of complete extirpation of the adenoma by the transfrontal route and mere subcapsular evacuation of the tumor contents by the transphenoidal route.

Then, too, in comparing the transfrontal and transphenoidal methods, one must consider in the former the effect of total removal of all pituitary tissue; for it must be assumed that in attempted extirpation of the adenoma every vestige of pituitary tissue may be removed. If, as reported by certain operators, the entire contents of the pituitary fossa has been evacuated, we must be willing to accept as an indisputable fact, contradictory as the experimental evidence may be, that the removal of all pituitary tissue is not inconsistent with the maintenance of life. No doubt, in lesions of long standing the structure of the respective lobes, anterior and posterior, must be very considerably altered. How much pituitary tissue in bulk remains and what may be its physiological potential is a matter of conjecture. Certainly, before operation there are definite signs of pituitary dysfunction which bespeak a gland disordered both in the pathological and physiological sense. With this point in mind, a critical study of a series of specimens, removed either at operation or at autopsy, would add much to our knowledge of the essentiality of the pituitary secretion. That there can be any compensatory assumption of functions by other glands of the endocrine system is unlikely, although a relationship between the pituitary and other endocrine glands is well known.

Admitting an interrelationship between certain of the endocrine glands, I have debated in my own mind the question of a possible interreaction between the pituitary body and the adrenals. Occasionally, after a transfrontal but never after a transphenoidal operation, I have observed an unaccountable collapse of the vasomotor system. An operation, performed under local anesthesia, with an insignificant loss of blood, may be followed by an alarming fall in blood pressure, and all efforts to restore the blood pressure may fail. Experiences such as these, exceptional though they are, are difficult to account for unless by admitting a reflex inhibitive effect upon the adrenals after insult to or total abolition of the pituitary body. At all events, whether or not this explanation of cause and effect is accepted, one must not lose sight of postoperative vasomotor collapse when considering the risks peculiar to the transfrontal method.

The facts contained in this commentary on the anatomic and physiologic relationship of the pituitary lesion are all pertinent, pertinent to a discussion of the choice of operative attack, pertinent to a forecast of the possible immediate and ultimate effects.

In previous communications[1] we have discussed the reasons which, for the time being, have determined our preference for the transphenoidal approach. Suffice it to say here that, recognizing its limitations and realizing that the element of risk is so much less by the transphenoidal approach, and the mortality so much lower than by the transfrontal route, there should be no doubt in the mind of the operator alive to his responsibilities which method to select. For after all, it must be remembered that this is an operation of choice. The surgeon is not dealing with an emergency which threatens life. To be sure, vision may be in the bal-

ance, but I have seen patients who preferred blindness to risk of operation, no matter how trivial that risk might be. The pituitary adenoma is a slow-growing affair, and the expectation of life may cover many years. Hence the operation with the least hazard must be given preference.

Certain exceptions to this general rule have been made in our clinic, chiefly in cases where there is a reasonable doubt as to whether we are dealing with a primary pituitary lesion or a suprasellar lesion. Sometimes (and these are exceptions, to be sure), even with a pituitary adenoma, there may be little if any encroachment upon the sphenoid sinus, and one may well be in doubt as to whether he is dealing with a pituitary tumor; in fact, he rather inclines toward a suprasellar lesion. Similarly, with atrophy of the dorsum sella and posterior clinoid processes, the characteristic deformation of the sella is lacking, and this bit of information, so helpful in differentiating between an intrasellar and an extrasellar lesion, is not available. But with these notable exceptions (and they are exceptions in any large series of cases), without hesitation we advise the transnasal approach as the initial plan of attack.

Technic of Transphenoidal Approach

For three days preceding the date of operation the patient receives fifteen grains of hexylresorcinol a day, and one grain each of the anterior and posterior lobe in half-grain doses given hypodermically. Perhaps both of these are of doubtful merit, but they are included on theoretical grounds in our pre- and postoperative régime. The patient must be in the hospital at least one week before the operation as a precaution against the contraction of an infection of the upper respiratory passages, and during this time the nasopharynx is cleansed three times a day with mild antiseptic solutions. A careful inspection of the nasal chambers is made to determine whether there may be any perforation of the nasal septum, as found in one case, or a marked nasal deflection with adhesions. In the former unquestionably, in the latter possibly, the plan to do a transnasal operation would be abandoned.

It has been our practice to include in the x-ray study of the cranium one lateral view. The exposure is made so that an accurate profile of the sella turcica will be portrayed, as well as the tip of the ear. In the profile skiagram, a line drawn through the nasal spine of the superior maxillary bone and the tip of the ear invariably passes through the middle of the floor of the sella turcica. If one is ever in doubt as to whether deformation of the sella turcica is characteristic of a primary pituitary lesion, this simple test gives decisive evidence. The lateral x-ray exposure is helpful, too, in outlining the posterior ethmoidal cells. Occasionally there may be a very large posterior ethmoidal cell, and if the proper direction is not maintained the operator may open this ethmoidal cell in mistake for the sphenoid sinus.

With this preparation, the operation is undertaken under oral ether anesthesia administered on the table. The patient's head and face are covered with a stockinette mask with an opening large enough to expose only the nose. To control bleeding in the submucous resection and to make it possible to begin under very light anesthesia, pledgets of cotton saturated with 10-per-cent cocain in 1-1000 adrenalin are applied for seven minutes to either side of the septum. A marine sponge of proper dimensions is placed snugly in the vault of the pharynx to prevent inspiration of blood from the posterior nares.

After disinfecting the skin in the field of operation with 3.5-per-cent iodin and infiltrating the line of incision with 0.5-per-cent novocain, the incision is made following the margins of the alae of the nose. Hemorrhage from the initial incision is readily controlled by the immediate introduction in either angle of the wound of Jansen mastoid retractors. The septum is now isolated from its mucoperichondrial layers and when two centimeters of the cartilaginous septum are exposed, our special pituitary bivalve speculum with its incandescent lamp is introduced. The field of operation is kept entirely blood free by the aid of an evacuator, and little by little, with every precaution to avoid perforation, the septum is freed and removed until the vomer is exposed. This is readily recognized by its characteristic plowshare appearance, and marks the avenue of approach to the sphenoid sinus. With a special angular chisel the vomer is penetrated, removed, and the floor of the sphenoid sinus resected with a Hajek punch for a distance sufficient to give an adequate exposure of the presenting sella floor.

It may be that by a process of pressure atrophy the sella floor has wholly disappeared and there presents at once the encapsulated adenoma pulsating synchronously with the transmitted pulsation of the brain. More often the floor of the sella is only of egg-shell thickness, and will be found to yield readily to the pressure of any blunt instrument. A slight tap with the chisel may be sufficient to crack it, and piece

by piece the floor is removed until an adequate surface of the lesion is exposed. With a capsular knife an incision is made in the capsule, and at once the operator proceeds with curette gently to evacuate the contents of the adenoma.

In using the curette, pressure should be so regulated that the capsule is at no point perforated, for two reasons: (1) to avoid opening the subarachnoid space and establishing a cerebrospinal fistula, and (2) to avoid injury to adjacent structures, cavernous sinus, etc. During the evacuation of the adenoma oozing will be continuous, and here the aspirator is indispensable and effectively keeps the field dry. Sometimes, after the contents of the adenoma have been evacuated, the cavity is tamponed with pledgets of cotton saturated in 1-1000 adrenalin to control oozing. Often this is not necessary. As a possible prophylactic against recurrence, the walls of the capsule are swabbed with Zenker's fluid, and as a final step in the operation, a muscle graft is placed over the perforation in the capsule. The operation is concluded by bringing the mucoperichondrial layers in apposition throughout. To insure firm apposition of these tissues, tampons (rubber finger cots filled with cotton) are introduced in either nasal chamber. The muscle wound is closed with catgut and the skin with silk sutures. A small dressing is applied to the lip, and retained with Montgomery straps.

Certain specific directions are observed in the postoperative period: Ice compresses are applied to the nose on alternate hours, the patient is protected from draughts, the mouth is kept moist and clean, the tampons are removed in 36 hours, and the nares are cleansed after this twice daily and swabbed with argyrol. The wound is protected from the nasal secretion by sterile vaseline. The stitches are removed on the fifth day. Five grains of hexylresorcinol is given three times a day during the first week. On the seventh day the patient is allowed to get out of bed, but he is not allowed to leave the hospital until a week later; that is, fourteen days after the operation.

Results

The patient and the physician are most concerned with the results of treatment rather than with the way they are acquired. We shall not discuss here either glandular therapy or radiation, but only the results of the operation we almost uniformly practice; that is, the evacuation of the tumor contents by the transphenoidal route. First of all, the hazard or risk of operation has been minimized to a very considerable degree. The mortality rate is now 4.5 per cent, and I confidently believe will soon be nearer 1 per cent. The cosmetic effects are all that one could ask—a scar so inconspicuous as to be scarcely detectable. But there are other considerations: what may be expected as to the effect on vision, on the signs of glandular dysfunction?

In the adenoma series, I have been particularly impressed with the importance of early operation. There is no question that a bitemporal hemianopsia will disappear, sometimes almost instantaneously, after a transphenoidal operation; nor is there any doubt that once optic atrophy is established there can be no improvement. The deduction is self-evident. To restore vision, the operation must be undertaken before the optic nerve has undergone atrophy. A statistical statement in the gross means nothing. We have quoted our statistics in previous communications, but statistics are of no value unless related to the duration of the lesion.

What has been said of the relation of the restoration of vision to the duration of the lesion is more or less true as regards the effect of the operation upon pituitary stigmata, so that here, too, statistics are of little value unless the duration of the lesion is known. But generally speaking, we have had cases in our series where there has been unquestionable arrest or even a retrogression of the symptoms of pituitary dysfunction. In the adult acromegalic, the coarseness of features has been less noticeable; in the posterior-lobe lesions, the accession of fat has been controlled, somnolence has disappeared, and fatigability has given way to normal vigor.

As to the permanency of results. Will the adenomatous growth regenerate? Of this we have no positive evidence. Certainly, in the adenoma of the thyroid gland, if we can draw an analogy, recurrence is exceptional. We have made it a practice to radiate all our cases after operation for its prophylactic effect, but without substantial evidence of any beneficial influence except perhaps that since this practice has been introduced, no patient has returned to the clinic with signs of recurrence.

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Professor Winslow, of the Yale School of Medicine, states that the stupor caused by lack of ventilation, is due, rather, to a too warm, moist, and stagnant atmosphere; and that the condition can be relieved by cooling of the skin.

Symposium on Recent Innovations in Treatment*

GENERAL TENDENCIES IN MODERN TREATMENT

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In the evolution of modern medical sciences therapeutics has been held to have progressed less rapidly than the other branches, and has been regarded by some as an art rather than an exact science. Dominated for centuries by the dogma of empiricism, a rational therapy has been slow in developing. Within recent years, however, owing to an increased activity on the part of scientific investigators in the fields of pharmacology and experimental therapeutics, empiricism in the art of healing is gradually being replaced by the scientific method in the treatment of disease. We have not as yet arrived at a place where we are justified in discarding some of the older useful remedies, the remedial action of which we are unable to explain, for not infrequently newer scientific research confirms the rationality of administering such drugs as mercury in syphilis and quinin in malaria, formerly used empirically. Future investigations will no doubt show that other time-honored drugs whose action we do not understand belong to this class.

The gradual elevation of therapeutics to the dignified position of an exact science is being rendered possible by the advances in our knowledge of the fundamental sciences of pathology, physiology, and chemistry, and the application of this knowledge in pharmacology and clinical treatment. The dividing line between physiology, the keynote of modern medicine, and chemistry is said to have disappeared, and the present-day exhaustive studies of the physicochemical constitution of the cell, the pathological physiology of which spells disease in the human organism, promise to revolutionize our conceptions of the treatment of disease. Of special value in this respect have been the investigations in the field of colloidal chemistry, since a knowledge of the behavior of colloids in the absorption of drugs is of the greatest importance in establishing a rational therapy. The chemists have shown us that the human organism is composed almost wholly of colloidal material, together with crystalloids and water. The crystalloids they have been able to group into electrolytes (including all the acids, bases, and salts of the tissues) and nonelectrolytes (such as the sugars and urea). The water found in the tissues is present in the form of hydration water combined with protoplasm. Free water, as such, is found in the body only in small amounts, being only temporarily present and rapidly excreted.

Similar observations have revealed the fact that the ability of the cell to absorb is dependent upon its colloidal character. Due to its colloidal nature, the living cell can absorb a greater relative amount of a dissolved substance than is found in the surrounding medium, for the reason that it may contain better solvents for the dissolved substance. Since the various tissue cells are of different colloidal composition, an explanation is afforded for the observation that the thyroid cells will absorb more iodin, when administered, than other tissue cells, and the liver cells more iron, and certain other cells more calcium. It now appears probable that the absorbing power of the cell is due to its colloidal composition and physicochemical state rather than to any so-called vital activity.

The physiological chemists have also established the fact that any substance introduced into the intestinal tract is not absorbed as such, and further that there is a selective factor in absorption of such a nature that when a dissolved substance or drug enters the intestinal tract the absorption of the water and of the substance or drug are separate processes.

These and other physicochemical studies of the behavior of the cell as an absorbing agent have served to stimulate an interest in the investigation of the absorption of drugs, our knowledge of which has heretofore been extremely scant. We were prone to believe that the more easily soluble the preparation of a drug was, the more readily it would be absorbed in the intestinal tract, and we were taught to administer the bisulphate of quinin in preference to the alkaloid or sulphate, as being more readily soluble and hence more quickly absorbed. Recent observations have shown our inherited beliefs to be unfounded, in fact, Lewis has recently demonstrated that the bisulphate of quinin, soluble in 7 parts of water, is somewhat more slowly absorbed than the other less soluble preparations. He also found that the almost insoluble alkaloid quinidin, requiring 2,000 parts of water for solution, is absorbed more rapidly in the human intestine than is the dihydrochlorid of quinidin, soluble in 3 parts of water. The fact seems obvious, as Eggleston has stated, that the matter of solubility of a drug in water bears no necessary relation to the question of its absorbability from the in-

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

testinal tract. Intensive studies of the rate of absorption have been limited to only a few of our commoner drugs such as digitalis, quinin, iodids, and salicylates, but even such limited observations as in the case of digitalis have been of great assistance in the therapeutic practice. Our lack of exact knowledge of the absorbability of the endocrine products is an example of a more or less futile, if not dangerous, therapeutic attempt.

In another manner chemistry has come to the aid of the physician in providing him with a better therapeutic armamentarium in the form of a more limited and more effective pharmacopeia. Some twenty years ago, when synthetic chemistry was in its infancy in America, the medical profession was prey to a host of synthetic drugs mostly imported from Germany. About that time organized medicine created the Council on Pharmacy and Chemistry of the American Medical Association. These synthetic drugs were subjected to a careful chemical scrutiny by the Council, and the number of such preparations soon became fewer as a result. It has now become the established function of the chemical laboratory of the Council to keep the profession informed regarding the composition of new drugs, while at the same time the therapeutic claims are carefully investigated. This work of the Council is now fortunately becoming more generally and favorably recognized by the better pharmaceutical firms, and the volume of alluring therapeutic literature is steadily diminishing.

Along with this careful supervision of the new drugs finding their way into practice, we are witnessing at the same time a wholesome simplification of our national pharmacopeia. From the 1910 revision of the Pharmacopeia some 244 drugs and preparations regarded as useless were deleted, and from the 1920 revision some 102 have been listed by the revision committee for removal. The present-day tendency is towards simplicity in drug therapy, and the use of fewer and better drugs.

The organization of a Therapeutic Research Committee by the American Medical Association is another factor that is helping to establish safe therapeutic procedures. The function of this committee is to foster therapeutic research requiring collaboration. Such collaboration between pharmacologists and clinicians, which the formation of this committee has instituted, will materially aid in bridging the gap between experimental therapeutics and clinical treatment.

It is evident also that therapeutic research, on the part of laboratory workers in our universities and of clinicians in hospital practice, is being carried on more earnestly than ever before in the history of medicine. Especially is this true in the field of chemotherapy. The conception of Ehrlich of the possibility of discovering some drug which might kill the invading organism without seriously injuring the host has stimulated an army of workers, and the quest, in spite of failures, goes on. So far, chemotherapeutic measures have met with notable success only in the case of the more highly organized parasites such as trypanosomes, spirochetes, and spirilla. The results attained with this form of therapy in diseases of bacterial origin have been less gratifying. After several years of investigation, Young and his associates have produced mercurochrome, for which they and other observers have claimed success in the treatment of staphylococcic and other bacterial infections. More recently, Leonard has developed a phenol substance, alkyl resorcinol, which he claims possesses a maximum of bactericidal power with a minimum of toxicity, and which he has found to be an efficient germicide in infections of the urinary tract due to the staphylococcus and streptococcus. For some time we have had an effective bactericide for the pneumococcus in ethylhydrocuprein, but the margin of toxicity between host and organism has been too small to warrant its clinical use. Vital stains have met with some measure of success in the treatment of bacterial infections. It is, perhaps, as yet too early to attempt to evaluate the therapeutic merits of these agents, and further clinical reports will be awaited with interest.

With the passing of the old-time shotgun prescription, and the use of fewer drugs, the profession is awakening to the curative value of the various physiotherapeutic measures, as their *modus operandi* is becoming better understood. It is becoming known that physiotherapy furnishes us with another agency for inducing chemical reactions in the body. The use of the ultraviolet ray has been demonstrated to be quite as efficient as cod-liver oil in the treatment of rickets, and to have a remedial influence in certain types of tuberculosis and other diseases.

Now, at times apparently audacious therapeutic attempts and ventures in the fields of chemotherapy, immunotherapy, physiotherapy, and newer surgical procedures in the treatment of medical diseases appear to be the order of the day. Many of these attempts are doubtless doomed to failure, but only a few may achieve a lasting success. The belief is warranted, however, that such attempts are being ap-

proached, as never before, through the scientific method, and that the goal of a rational treatment of disease is already in view.

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EPHEDRIN AND OTHER DRUGS OF CHINA*

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According to Chen,[1] the systematic use of drugs in China dates back to Emperor Shen Nung (B. C. 3217-3077), who is said to have tasted one hundred herbs and to have written a book—the *Pentsao*—which, with subsequent additions, still serves as the reference book of drugs for Chinese physicians. The latest revision—the *Pentsao Kang Mu*—was made in 1596, and contains a total of 1,871 drugs. Of these, many have never been identified chemically or botanically.

Foreign physicians in China are frequently confronted with instances of apparently striking results from native drugs. As a Chinese prescription contains at least nine ingredients, it is difficult to form an opinion as to which may have been responsible for the effects described. The pharmacologist is often asked for information concerning this drug or that, but as a rule he is unable to make a satisfactory reply. The principal sources of information are: (1) a book by Stuart,[2] in which are collected the botanical description and identification of the most familiar vegetable drugs of the *Pentsao,* together with the Chinese ideas about them; and (2) a bibliography, compiled by Read,[3] of scientific publications pertaining to the drugs listed by Stuart. Most of the scientific work done with these substances seems to have been devoted to their chemical characteristics rather than to their physiological effects.

In order to acquire the information necessary to fix the status of some famous Chinese drugs, an investigation of their chemical and physiological properties was begun in Peking Union Medical College. Among the most widely used are licorice and rhubarb, whose virtues need no comment, and whose effects scarcely call for investigation. A famous remedy for menstrual disorders—Tang Kuei—proved to owe its effects to volatile substances, and to belong in the same therapeutic group with tansy, sage, pennyroyal, or parsley.[4] A highly esteemed nerve tonic and diuretic—Fu Ling—was found to be without physiological effect or food value.[5] A drug—Huang Chi—which was said to have cleared up the symptoms and urinary signs of advanced nephritis after foreign treatment had failed, contained no active ingredients, and had no definite effects.[6] Of these, only Tang Kuei could be said to have any action on which its reputation might be based, and this action could properly be regarded as a toxic one.

A fourth drug—Ma Huang—was suggested by a Chinese druggist as a potent substance which is always given cautiously by native physicians. It is supposed to be particularly effective as a circulatory stimulant, cough remedy, and diaphoretic, and was one of the hundred herbs tasted by Shen Nung over 5,000 years ago. From the first, experiments on animals showed that it had definite effects, and an alkaloid was isolated from it which proved to be its active principle.[7,8] This alkaloid was shown to be identical with one which was isolated from the same plant in 1887 by Nagai,[9] who called it ephedrin.

Ephedrin had been investigated chemically[10] and physiologically,[11] but outside of a limited vogue as a mydriatic it was never used to any extent in therapeutics. It is worth noting that the chemical structure and some of the physiological effects of ephedrin were known ten years before epinephrin was isolated, and though the chemical and physiological characteristics of epinephrin were found to be very similar to those already on record for ephedrin, the latter substance seems to have been forgotten in the enthusiasm over the former.

The Action of Ephedrin

It was found[7] that most of the physiological effects of epinephrin could be obtained in animals by means of ephedrin: rise in blood pressure, mydriasis, relaxation of bronchial spasm, contraction of the uterus, and inhibition of intestinal movements. But in contrast with epinephrin, the effects of a single dose of ephedrin commonly persisted for an hour or more after intravenous injection, though they were seldom as intense as those of a full dose of epinephrin. It was also found that ephedrin was effectively absorbed from the intestinal tract of animals, and this was later confirmed in man. Another advantage over epinephrin was found in the stability of solutions of ephedrin, which can be boiled without deterioration, and which retain their potency indefinitely.

As the drug appeared to deserve a trial as a substitute for epinephrin, its toxicology was of prime importance. Miura[11] had already shown that the toxicity of ephedrin in animals is very low. This was confirmed[7] before the

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drug was tried on man. Since then, Chen has made a careful study of the effects of single toxic[12] and repeated excessive doses[13] in various animals. The results leave no doubt that ephedrin in reasonable quantities is not harmful: the lethal dose is from 35 to 100 times that required to produce maximum physiological effects, depending on the route of administration. Death follows convulsions similar to those produced by cocain, and apparently is due to acute cardiac failure. Daily administration of excessive but not fatal quantities causes no symptoms, and leads to no pathological changes. No tolerance is developed.

Clinical Results

Ephedrin was tried[7] as a circulatory stimulant in normal men, by mouth and by subcutaneous injection. The results were so striking that it was used in a case of moderate surgical shock, with good effect. A patient with Addison's disease was markedly improved by it. Because the supply of the drug was inadequate, a thorough trial of it as a substitute for epinephrin could not be made at that time. Such a trial has been made by Miller[14] and by Fetterolf and Sponsler.[15] Their findings justify the hope that ephedrin may prove to be of real value.

Miller found it effective as a circulatory stimulant in more than 70 per cent of the cases in which it was tried, whether it was taken by mouth or injected. The rise in blood pressure produced by a single dose usually lasted three hours or more, and in several cases of impending circulatory failure it worked very well. In asthmatic patients ephedrin by mouth alone usually brought relief, complete in some cases, requiring additional injections of epinephrin or ephedrin in others. It was possible to control asthmatic symptoms completely in some cases by means of capsules of ephedrin taken two to four times daily. In two cases of Addison's disease ephedrin caused temporary improvement. It is not yet certain whether these effects can be sustained, though Miller finds that it is not practicable to maintain blood pressure at a higher level by prolonged exhibition of ephedrin. Symptoms of urticaria were relieved in two patients when ephedrin was taken by mouth. Other interesting effects on basal metabolism and on the heart are being investigated more thoroughly.

Fetterolf and Sponsler found that a 5-per-cent solution of ephedrin sulphate, applied to the nasal mucous membrane, caused almost immediate relief of symptoms of engorgement without any irritation or unpleasant after effects. Relief lasted nearly three hours, as a rule. They describe it as a drug which, for use in the nose, has all the advantages of epinephrin without any of its disadvantages.

No instances of serious or even unpleasant effects were encountered except the occurrence of gastric disturbances in two patients who had received several capsules of ephedrin daily for several weeks. If this was due to the drug it can probably be obviated by other methods of administration. Some subjects complained of nervousness, and since convulsions are caused by toxic doses in animals, it may be that stimulation of the central nervous system is elicited to a minor extent by therapeutic doses in man. The average dose has been from 60 to 120 milligrams (1 to 2 grains) in adults, though as much as 200 milligrams (3½ grains) has been injected in cases of shock with only beneficial results. There have been no signs of development of tolerance.

It appears that the chief usefulness of ephedrin will be found in acute circulatory crises, such as surgical shock, in asthma, and as a constricting application to mucous membranes. Its effects in experimental shock in dogs have been investigated by Chen,[16] who found that a single intravenous injection of 3 milligrams per kilo caused marked improvement which was sometimes complete and permanent without any other measures being required. A clinical study of its action in traumatic shock is being made, with results that so far are encouraging.[17] It may be valuable as an ingredient of local-anesthetic mixtures, though it has not yet seemed advisable to try it in this connection.

Possibilities Among Chinese Drugs

Recalling that Ma Huang is reputed to be an effective circulatory stimulant and cough remedy, it is of some interest to note that investigation of its active principle—ephedrin—by modern methods confirms the Chinese belief; for ephedrin is undoubtedly able to raise blood pressure and to relieve an asthmatic cough, and it is effective when taken by mouth, as Ma Huang always is. As to the reputation of Ma Huang as a diaphoretic, there has been no corresponding effect from ephedrin in man, though its action on the circulation is such as to cause an increase in blood flow through the skin and muscles.[7] It is possible that such an effect might lead to sweating. In spite of the lack of justification for the Chinese faith in licorice, rhubarb, Tang Kuei, Huang Chi, and Fu Ling, the coincidence between the reputation of Ma Huang and the demonstrated effects of its active principle is striking enough to lead to

the hope that other native drugs may be shown to deserve some of their traditional reputation.

There is another example of a modern rediscovery of an old Chinese remedy that is more striking—chaulmoogra oil, preparations of which have been used recently with such success in the treatment of leprosy that chaulmoogra oil and the ethyl esters made from it have been introduced into the latest revision of the *United States Pharmacopeia*. The Chinese have used chaulmoogra for centuries to treat leprosy, and one name for the source of the oil means literally "leprosy seed."

It is only fair to state that the doses of Ma Huang used by Chinese physicians probably never contain enough ephedrin to induce real effects. Similarly, their preparations of chaulmoogra are probably not effective at best, and there is some doubt as to whether even the best preparations from foreign sources are effective when taken by mouth, as is done in the Chinese treatment. Yet the tradition of the usefulness of these drugs must have had some foundation in fact, though it has become so obscured by additions and subtractions in the course of the centuries and in the absence of unbiased observation that similar traditions regarding other drugs cannot be taken too seriously. Undoubtedly, many if not most of the drugs listed in the *Pentsao* will be found to be no better than our own, but with Ma Huang and chaulmoogra as examples, the hope seems justified that a few other unique substances may be found.

Summary

(1) Of four supposedly potent Chinese drugs, only one was found to have actual physiological effects. This one—Ma Huang—contains an alkaloid, ephedrin, which is its active principle.

(2) The action of ephedrin is qualitatively the same as that of epinephrin, though the effects of ephedrin are less intense but much more prolonged, and ephedrin can be given effectively by mouth. Solutions of ephedrin are stable even when boiled.

(3) The toxicity of ephedrin is very low. On prolonged administration to animals it causes no symptoms or lesions, and does not lead to tolerance.

(4) Ephedrin has been tried in man with excellent results as a circulatory stimulant, as a bronchodilator, and as a constricting application in the nose. Its effects in certain other conditions are being investigated. No real disadvantages connected with its use have been apparent.

(5) The effects of ephedrin on animals and man are such as to justify the reputation of Ma Huang among Chinese physicians. The recent use of chaulmoogra preparations in the treatment of leprosy is another rediscovery of an old Chinese remedy. It is hoped that other examples of unique therapeutic agents may be found when the Chinese materia medica is more thoroughly known.

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RECENT ADVANCES IN TREATMENT OF PURPURA HEMORRHAGICA*

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The clinical picture of purpura hemorrhagica is too well known to you to warrant description. Suffice it to say that its differentiation as a clinical entity, distinct from other purpuric diseases, is based on certain hematologic characteristics which evidence themselves at least during the active phases of the disease. These characteristics are: (1) a condition of thrombocytopenia, or subnormal platelet content; (2) a prolongation of the bleeding time; (3) a subnormal retractility of the blood clot, though the clotting time itself is normal; and (4) a lack of normal capillary resistance, resulting in what is called a positive tourniquet test.

Of these tests, the most important and at the same time the most difficult is the platelet count. Accurate platelet counting requires scrupulous care and considerable experience. Yet, on the results of platelet counting one must depend not only for diagnosis but also for opinion as to progress and cure of any given case. For example, a patient with chronic purpura hemorrhagica may survive an acute exacerbation of the disease and to all outward appearances seem completely recovered, yet a platelet count may disclose the underlying disease still present (i. e., a thrombocytopenia) and thus give warning that the "cure" is a false one. Such a patient, weeks, months, or years later may relapse again and again into a state of activity with purpuric lesions, hemorrhages, and fever.

The point to be emphasized is that purpura hemorrhagica is a disease of vagrant and un-

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predictable course, subject to spontaneous cure, to long remissions, to unexpected relapses, and all too often to gradually or rapidly fatal termination. With such a natural history as a background, it is difficult indeed to assess the value of therapeutic measures.

Modern additions to the treatment of purpura hemorrhagica include one or a combination of the following: blood transfusions, so-called protein shock, x-ray treatment of the spleen, and splenectomy.

Blood transfusion has come to be the one almost universal treatment for acute purpura hemorrhagica. Often it is a life-saving procedure; at other times it fails utterly, and seems only to hasten fatal outcome. Taking it all in all, however, it is the most valuable emergency measure at our command.

Included under treatment by protein shock may be mentioned intramuscular injections of horse serum, milk, coagulose, and human blood. These methods are recommended especially for the treatment of chronic purpura hemorrhagica. We have tried them all and have never been convinced that they were as good as repeated blood transfusions.

Splenectomy is the outstanding method at the present time. The literature of recent years is full of enthusiastic reports of cures by splenectomy. It is believed that in purpura hemorrhagica the spleen destroys the blood platelets; just as in hemolytic ictero-anemia and in splenic anemia it destroys the red blood corpuscles; hence the rationale of splenectomy in these diseases. In the acute fulminating cases of purpura hemorrhagica the results of splenectomy have been uniformly bad, but in the chronic cases many cures have been reported. A critical analysis of these favorably reported cases shows, however, that for several reasons less than fifty per cent can be safely classified as cures. In the first place, the interval of apparent cure following operation is not long enough to establish a permanent status. Secondly, in many of the patients there is a return of the blood to its previous state of thrombocytopenia with nonretractile clot within a few weeks of operation. In spite of this, however, with but few exceptions the patients are returned to health and strength, and all active manifestations of the disease disappear soon after splenectomy. There are now ten cases reported in the literature which have attained the status of "five-year cures."

In view of the good results of splenectomy and because of the reputed beneficial effect of protein shock, it occurred to us that a combination of protein shock and splenic destruction might be obtained by the use of massive doses of x-ray over the spleen in these cases. In collaboration with Dr. H. K. Pancoast and Dr. Eugene Pendergrass of the department of radiology of the University Hospital, we have undertaken the treatment of three cases of chronic purpura hemorrhagica by massive irradiation of the spleen. Our results, while distinctly encouraging, are too recent to warrant any dogmatic statement. We feel, however, that our method of destructive irradiation of the spleen deserves more general trial before subjecting a patient to the hazard of splenectomy.

In conclusion, the following procedures are recommended, and in the following chronologic sequence for any given case of purpura hemorrhagica: (1) blood transfusions, to be repeated according to indications and effects; (2) massive irradiation of the spleen (this should be repeated unless leukopenia develops—which is a danger signal); and (3) as a somewhat heroic though decidedly promising procedure, splenectomy should be performed.

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THE TREATMENT OF SECONDARY ANEMIA

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Anemia is usually considered as that condition in which there is found a diminution in the amount of hemoglobin for a standard volume of blood, which may or may not be accompanied by a reduction in the number of red blood cells per c.mm. We think of pernicious or primary anemia as a distinct entity, and then, for the sake of convenience, group the remainder under the term "secondary anemia," but on close inspection, we find many anemias the fundamentals of which we know little or nothing about. We try further to classify them clinically by such terms as toxic, metabolic, and infectious, direct our treatment to the correction of these things, and the anemia may or may not improve, depending on how well we are able to attack and remove or correct the condition from which the patient fundamentally suffers.

The cases, from the standpoint of blood examination, will generally fall into three groups: (1) where the hemoglobin is reduced more than the red cells; (2) where the hemoglobin and the red cells are about equally reduced; and (3) where the red cells are relatively more reduced than the hemoglobin. In the first group

we have a color index definitely less than 1.0; in the second, the color index closely approaches 1.0; and in the third, it is more than 1.0.

It is with the first group and some of the second that we shall deal, for it is in the second and third groups that the primary anemias fall, as it is well known that for a definite diagnosis of pernicious anemia we must have a color index of more than 1.0 and that it may be only after various blood counts that our color index will average this high. Incidentally, pallor is not a sure proof of anemia, and a blood examination is essential to confirm the diagnosis. In general, if we use the term secondary anemia, we mean that there is some factor operating outside of the hemapoietic tissues which is acting in such a way as to interfere with their normal activities, and we get, in consequence, the blood picture which we are pleased to call secondary anemia, as differentiated from the typical picture of pernicious anemia.

It is logical to think that if the etiologic factor can be recognized and either removed or treated in such a way as to cause it to cease operating, the tendency of the body tissues to return to normal will swing the blood picture back to a healthy one, provided the disease has not worn the patient to such an extent that the vital capacity of regeneration has been lost. Therapy, then, should consist in trying first to determine the cause of the anemia and remove it if possible, and secondly in using those means which will help the patient to return to normal in the shortest period of time. It is to be admitted that there are causes for anemia, which though recognized, cannot be removed, and also cases where the causes cannot be recognized, and it is in these last cases that a symptom rather than a fundamental factor must be treated and the patient put in the best possible condition to cure his own disease.

The causes of anemia cover a wide field of medicine, as almost any sick individual (exclusive of those rare cases in which there is an increase in the red blood cells) will develop an anemia sooner or later, depending on the viciousness of the disease and the resistance of the patient, so that where an anemia is found, a searching history should be taken and a complete physical examination made. General living conditions, personal hygiene, diet, and social factors should all be taken into account, as one or all of these may be the faulty basis, tending to constitutional strain and subsequent malnutrition. Too much indoor work, chronic indigestion, constipation, obesity, insufficient sleep, long-continued breast feeding of children, insufficient food, or improperly balanced diet will all cause anemia. Focal infections, chronic pelvic disease, bacterial endocarditis, nephritis, and the convalescent period after the acute infectious diseases will show an anemia. In the more obscure cases, chronic hemorrhage should be looked for along the various parts of the gastro-intestinal and genito-urinary tracts, and hemophilia should be considered. Acute hemorrhage will usually be apparent. Tuberculosis, syphilis, neoplastic disease, malaria, and the various gastro-intestinal and blood parasites may have to be excluded. . The various states of rickets, scurvy, beri-beri and sprue are possible factors. Of the rarer conditions, cirrhosis of the liver, splenic anemia, von Jaksch's anemia, aplastic anemia, Hodgkin's disease, or one of the various leukemias may be found. Myxedema is at times accompanied by marked anemia. Lead or the salicylates, if absorbed over a long period of time, will produce an anemia, and it is a curious fact that the two drugs, mercury and arsenic, which have a beneficial effect on the anemias when used carefully, will produce an anemia if administered for a long time without frequent free intervals.

After an effort has been made to locate the factor which is causing the anemia, the patient must be treated. Where there are conditions amenable to surgical treatment, this should be carried out, if and when the individual is able to stand it. These cases all require rest, both mental and physical, and where the anemia is severe, rest in bed is the best. The diet should be simple and easily assimilated, well balanced, and containing a fair amount of green vegetables. All food should be well masticated. It is to be remembered that some of these patients have a gastric subacidity, and dilute hydrochloric in one- or two-dram doses well diluted, and taken slowly with the meal will help. Cod-liver oil is another aid, not only on account of its specific value, but also on account of its caloric value. The patient should have plenty of fresh air and sunlight, the latter directly on the body, starting with short intervals, and gradually lengthening the periods and increasing the amount of body surface exposed, being careful not to cause burning or nervous irritability. Lack of sunlight may be in part remedied by application of one of the various ultra-violet-ray lamps. Cool or cold sponges, baths, or packs are of tonic benefit, providing they are given of the temperature to cause a mild stimulating reaction without chilling.

Where the patient is able to be up and about, mild exercise, preferably walking in the open air, just short of the point of physical tiring, is advisable. If unable to be out of bed, the

muscle tone should be kept up as far as possible by skillful massage.

The administration of drugs, although a necessary adjunct of the treatment, probably has never cured a case of anemia, except that of specific disease, and I sometimes wonder whether it is not the psychological reaction to the physician, along with the following out of his general advice on methods of living, which does as much good, if not more, than the medicine he gives. We have as yet no hematinic of great or sure value, and must still depend on those drugs which have a general alterative effect.

Arsenic I should place at the head of the list. It may be administered in tablet form by mouth, as arsenous acid, or in the form of Fowler's solution (liquor potassii arsenitis). Sodium cacodylate may be used hypodermically. Small doses should be given at first, increasing as the body seems to become somewhat resistant to arsenic, but it must be remembered that it is a cumulative drug, and signs of poisoning should be watched for. Routine free intervals are advisable.

Mercury is another drug which seems to have a beneficial effect on those suffering from anemic states. This drug should be used in small doses and stopped at frequent intervals, as it is also cumulative, and its toxic effects are only too well known. The bichlorid by mouth, or the U. S. P. mercury ointment rubbed into the skin are the preferable ways of administration. The last seems to be particularly good with children. Mercury and arsenic combined in the form of Donovan's solution (liquor arseni et hydrargyri iodidi) is a good mixture.

The effects of the administration of the various forms of iron is still being hotly contested, with the experimental evidence swinging more and more to the side of its inertness. The case for iron rests on the fact that hemoglobin is an iron-containing substance, and since the hemoglobin is reduced, the iron in the blood stream is reduced. Therefore, give iron. That may or may not be the case. I do not think it is. It is seldom that the body tissues do not have an adequate supply of iron stored up, and the iron which enters the alimentary tract, except in those small amounts which are carried in by an adequate diet, is very little absorbed. If iron is administered subcutaneously, intramuscularly or intravenously it is soon fixed in the tissues, so that administration in any manner in the forms now used does not apparently add greatly to the available iron supply. However, I do not wish to dispute the many years of the empirical use of iron, and should suggest only that it be given in small doses by mouth or hypodermically, and that too striking a result from its use should not be expected. Germanium dioxid, from which much was at first hoped, has not been clinically satisfactory.

Strychnin in full doses is of value where a general nerve stimulation is needed. Quinin in one of its various forms is also a good general tonic. Small doses of sodium iodid given over a fairly long period of time seem to help. Just how this drug acts, I cannot say, but I suspect that it has some effect on the endocrine system. This drug should be carefully watched on account of its effect on the thyroid. Where there is any question of thyroid deficiency, thyroid extract will usually have a quick and marked effect. It should also be carefully watched for its toxic effects. Extracts of spleen with bone marrow have been suggested and tried from time to time, but my own experience with them has been very small, and I am unable to discuss their value.

Administration of small doses (five to ten c.c.) of whole blood, given intramuscularly every day or every other day, seem to be of decided benefit where other methods have failed. The use of transfusions is of questionable value except in those cases where the blood stream has been more or less rapidly depleted by hemorrhage.

PHYSICAL FACTORS OF THE PSYCHONEUROSIS*

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It is the common habit now in the new fields of functional neurology to interpret and classify symptoms. The modern neuropsychiatrist is content to develop an avoidance reaction, an inferiority complex, a reactionary depression, a Freudian hysteria, a shell-shock complex, or a conduct disorder on a sexual basis, and having developed and analyzed it, to be content with the mental or nervous readjustment, taking no consideration whatever of the physical machinery —visceral, structural, and cerebral—upon which these various symptom reactions have developed.

This is particularly true in the field of the neuroses. The functional nervous states, as contrasted with the psychoses or mental or insane states, are commonly divided into the neurasthenias, hysterias, and psychasthenias. To these we may add functional depressive states, menopausal nervous hyperirritability, menopausal

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nervous depression, hypochondrias, and industrial paranoid neuroses. It will be noted that all of these groups rest upon the mental status of the patient.

We have analyzed 100 of our own cases to see if there could be found in the underlying pathological factors some basis for classification, study, and treatment. As a result of this study, we have found the cases falling quite naturally into the groups shown in the table on this page. We have also found that a given pathological reaction will vary as to quality, quantity, and intensity, according to the age of the patient, the medicine given, etc. The classification according to age is as follows: adolescent (up to 20 years) 26, adults (20 to 40 years) 35, menopausal (40 to 55 years) 28, and involutional (55 years upward) 11.

CLASSIFICATION OF 100 CASES OF PSYCHONEUROSIS

	Focal Infection	Tuberculosis	Syphilis	Cardio-renal	Gastro-intestinal	Pelvic Conditions	Total
Neurasthenias	5	4	3	5	10	0	27
Psychasthenias	8	0	0	2	6	0	16
Hysterias	2	0	0	0	2	0	4
Depression	12	6	3	9	19	4	53
Total	27	*10	6	16	†37	4	100

*5 of these were active.
†9 were gall bladder.

While much has been made of the family psychogenic factors, if we examine them with a clinical eye, they lose much of their mystery and complexity.

Janet and Freud, in their analysis of the hysterias, laid much stress on the splitting of the consciousness of the individual, and while all of this and the intensive interpretation of it had an ultrascientific atmosphere, it is, after all, the accentuation of a very simple mental process that every one recognizes in his own personal experience and that of his patients. It is an accentuation of introspection. The man with a severe toothache lacks concentration because he is thinking through a layer of pain. His consciousness becomes self-conscious because he cannot escape the visceral pain. His mind—his attention—his consciousness becomes involved. He has perhaps half his attention on the subject before him, and necessarily half the memory of it, due to his fifty-per-cent failure of concentration.

He complains bitterly of loss of memory because it affects his efficiency and earning power. As a result of this, he searches in his own anatomy—his heart, his gastro-intestinal tract, and his sex life—for an explanation. The original splitting of his consciousness due to pain then becomes fixed, and he develops a fairly well-defined case of psychoneurosis upon which may be built any clinical picture, even the most complex.

It makes little difference whether the condition originated with the pain of a diseased tooth, a chronic appendicitis, or gall-bladder disease, or whether the cause is failing health without pain, due to an albuminuria, a glycosuria, a myocarditis, or other disorder, the fundamental principle remains the same. Just so soon as faulty attention leads to introspection, a splitting of the consciousness and of the personality appears, differing only in degree from that seen in the advanced hysterias.

What Is Depression?

Anybody who is sick is depressed, except perhaps in paresis. It is only a matter of degree whether the patient is described as off color, grouchy, nervously depressed, or so deeply depressed as to predispose to suicide—classed, in the latter case, as insanity or acute melancholia. It has been said that diseases below the diaphragm are associated with mental depression; whereas diseases above the diaphragm are not, and the patient is usually optimistic. This, of course, is only partially true; though it may be said, in a general way, that diseases of the liver and the gastro-intestinal tract are very prone to induce symptoms of depression out of all proportion to the underlying cause. Whether the depression is mild or severe, it may be compared to the rash in measles. The same germ, in an infectious disease, will cause a slight rash in one member of a family, and in another a hemorrhagic form. So it is with a hepatic disease or a colonic intoxication. In one member of a family it causes a slight depression which he can shake off, while in another with a sensitized brain, it produces a deep depression, with introspection, ideas of self-accusation, and melancholia. Fundamentally, the symptoms are the same as in the measles rash.

Mental Confusion

This is a very complex mental symptom. Any one with eye-muscle trouble and faulty refraction, after a long railway ride or a long, winding, bumpy automobile ride, may have, for a varying time, a muddled mind that quickly readjusts itself. It is a simple reaction to severe special-sense strain, although it may indeed, like seasickness, have a toxic gastro-intestinal factor added. The mental confusion of the psychoneurotic or the insane is an intensification of the same process.

A large percentage of deaf people grow suspicious—the reaction to self-consciousness and the inability to hear clearly what is being said to them. The anemic individual likewise is irritable and suspicious. And suspicion is the soil upon which grows the delusion of persecution. It is, again, a reaction to a splitting of the consciousness due to disease that in its simple form can easily be interpreted, but in its most complex form needs interpretation if therapeutic results on a reasoned plan of treatment are to be obtained.

Neurasthenia

The most intense neurasthenia is never developed on a purely imaginary basis. The patient may have a hyperirritable, highly sensitized nervous system that reacts intensively and poorly to toxic stimuli, external impressions, or environmental conditions, and adjusts badly to the biologic surroundings. Nevertheless, such an individual becomes a patient only when some underlying derangement of function or disease or intoxication acts on the highly sensitized nervous system to such a degree as to make it pathologic and to interfere with its normal functioning. It is, therefore, beside the mark to say, because a he-man sort of person may have ten abscessed teeth and enjoy them, that his artistic or esthetic neighbor who falls by the wayside with only one infected tooth or tonsil is neurasthenic or psychotic. A faulty endocrine system due to disease in childhood may be responsible for both his esthetic qualities and his lack of resistance to toxic or infectious disease processes. Perhaps, because he was a weakling in childhood, due to pertussis or tuberculosis or other disease, he was wrapped up in cotton wool, without fresh air, sunshine, hard work, or discipline, and acquired by contact the feminine qualities of fineness of thought and feeling. These things we call artistic and cultured, but they do not add to the resistance to bad physical or mental environment or disease in adult life.

Specific Functional Diseases

In this type of case, it is necessary to build both diagnosis and treatment not upon purely mental processes, but rather upon physical factors acting on the particular type of human material involved. A group of 15 cases presented the interesting and illuminating clinical picture of psychotic symptoms without insanity. These cases deserve particular attention because they throw much light on the development of the insanities. Six of the group were developed on a cardiorenal basis, 7 on a focal-infection basis (3 of these with an old healed tuberculosis, 2 with goiter and endocrine reactions, and 2 with reflex pelvic factors), 2 on a gastro-intestinal basis with menopause, and 2 on a basis of active pulmonary tuberculosis.

The Cardiorenal Group

One of these patients was a woman of 68 years, with myocarditis and paroxysmal tachycardia, who developed delusions of persecution if she attempted to be out of bed, but was of perfectly normal mentality while in bed.

Another was a man of 52, with violent hallucinations of hearing (sexual and filthy commands), but with complete insight. His was a case of advanced myocarditis with decompensation while under treatment, secondary nephritis, and enlargement of the liver.

A third patient was a woman of 45, previously an alcoholic, with violent visual hallucinations which cleared up with relief of kidney inefficiency and cardiac readjustment.

In the fourth case, a woman of 56, the symptom complex included myocarditis, psychoneurosis, neurasthenia, religious emotionalism, conduct disorders, slight albuminuria, hypothyroidism, and morphin addiction due to pain following operation for a pelvic disease.

This group of cases is of great interest because we have here a pure cardiac lesion; a primary cardiac and secondary kidney and liver case; a primary kidney case, with secondary circulatory reaction; and a primary reflex psychoneurosis due to a local pain focus upon which the cardiac and later the renal and endocrine factors were superimposed. None of these patients were insane, and yet all presented symptoms upon which the diagnosis of insanity is frequently based, and, assuming the pathologic processes to be intensified or the cerebral resistance to be lowered, would continue on into insanity. In the paroxysmal-tachycardia case, if the cardiac strain were continued, the patient would eventually have fixed delusions of persecution and become insane. She prefers to remain bedridden rather than have a disturbed mentality.

The Tuberculosis Group

One of the two pulmonary cases is equally interesting and illuminating. The patient is a woman of 32, with a history of old pulmonary tuberculosis in childhood. Following an influenza attack, there was a flare-up of the pulmonary process, with very minor symptoms—evening temperature of ½° to 1°, neurasthenic fatigability, and intense depression, sense of unworthiness, loss of family affection, etc. This depression returned for six months, and disappeared with an improvement in the physical vital

tone under rest treatment, with overfeeding, fresh air, occupational therapy, etc.

The interesting episode of this case occurred during convalescence, when the patient was apparently normal and happy. The day before she was scheduled to leave the hospital, she developed a herpes zoster two by three inches in extent, in the mid-dorsal area. This was associated with a slight rise in temperature. For one week, while this lasted, the old mental picture of intense depression, etc., returned, and with the same intensity as at the worst period of her illness. When the herpes began to heal, and the temperature dropped to normal, all these symptoms practically cleared up, and have not returned.

The Gastro-Intestinal Group

Mrs. D. B., aged 50, shortly after a hysterectomy, developed a so-called neurasthenia. After five months, this was associated with a deepening depression. At the end of the year, she developed very much the mental picture of the preceding case. She had ten living children, and developed the idea that her husband and whole family were opposed to her, had no affection for her, etc. This was the picture of a pseudoparanoid state. In reality, it was a demand for sympathy that became fixed into a depressive, almost persecutory state. An analysis of this case showed evidence, from the physical examination, duodenal drainage, and x-ray studies, of chronic gall-bladder affection. While under treatment during the past four months, she has had three attacks of biliary colic, and after each successive attack a return of her old symptoms. In addition to the gastro-intestinal pathology in this case, we have assumed a precipitate-menopause reaction, and have included this as part of the basis of our therapy.

The similarity of mental pictures at times from entirely different underlying causation is rather striking.

D. M., aged 38, single, a clergyman, on a basis of a chronic antrum infection, developed a neurasthenic syndrome with a psychologic block associated with visual hallucinations, sexual in nature, similar to the first case described in the cardiorenal group. In this instance, there was also a pelvic reflex factor, due to a chronic irritation of the bladder and posterior urethra. This case cleared up completely when these conditions were remedied.

Multiple Factors

It is extremely difficult at times, in a group of cases such as are under discussion, to assign to multiple factors the degree of their importance. This does not always coincide with the order of their development. An old pulmonary infection will disturb the endocrine balance, a focal infection will accentuate this to the point of danger, and both focal infection and endocrine derangement acting on the myocardium will produce a cardiorenal reaction that will result in mental symptoms.

M. S., aged 33, presented just such a picture, only with other factors added. She was neurasthenic and at times hysterical, with periods of depression, hyperirritability, psychasthenia, etc. She presented an old healed pulmonary lesion; a severe focal tonsillar infection; a chronic appendiceal infection; adenomatous goiter, with tremor and exophthalmos, myocarditis, endocarditis, tachycardia, etc.; and anemia. To complete this situation, there was a history of sex irregularities in the past of both husband and wife—a Freudian element that added to the depression.

In order, therefore, to treat these patients, there is required a knowledge of the physical machine, normal and pathological; an estimate of the relative value of the various pathological processes; and a knowledge of the historic development of the nervous-disease processes. To restore the individual to normal mental and nervous health, there must be a relative readjustment of the physical machine. In my experience, it is rare for the mind and nerves to fail automatically to find themselves under such treatment. In some few cases, a detailed psychological study and interpretation becomes necessary. In all cases it is interesting, from an academic point of view. After all, it is so much easier to readjust these patients after they have regained balanced physical health, normal attention, good memory, and a sane point of view, than it is to attempt this when the basis for their disordered personality still exists.

The above fifteen cases present the most advanced and dangerous group of the psychoneuroses. They do not differ, except in the degree of the problem presented, from every one of the hundred cases analyzed.

In taking the history of all of these cases, particular attention was directed to sex and other psychic traumata. In only four of the group could it be said that the sex life from childhood or before had sufficient to do with the disease presented to warrant particular attention to the psychological aspects of the case. This does not mean that psychotherapy in one or another form is not used. A prolonged and detailed analysis along the lines of the technic of Freud was not only deemed inadvisable, but

in the final analysis was not found necessary. The most violent sex case that came under our observation was miraculously cured by the removal of pelvic fibroid tumors. In another case, in a male, the mental picture cleared up upon the removal of the bladder irritation and the ureteral lesions. In neither of these cases could they be persuaded that the condition could be improved, and to carry on a detailed and prolonged analysis over many months, would at the most satisfy scientific curiosity and be of questionable benefit to an already introspective type of patient.

I have now had some twenty-seven years of experience with the Freudian method of analysis; I have used it as a method of diagnosis and treatment; but I have never been willing to give up my status as a scientific physician for that of an applied psychologist. I have not been able to dissociate the brain and nervous system from a very intimate relation with the remainder of the body—with the viscera that supply it with blood for its functioning, and to which it in turn supplies energy and direction. Nor have I been able to escape the fundamental principle that thought is the end process of this metabolism, not the beginning of it; and that when the thought stream becomes turbid and muddled, it is not due to itself but to the blood stream that activates it, and that this must come from the heart, liver, bone marrow, and other vital organs of the body.

For this reason, I prefer first of all in these cases (whether they be called neurasthenias, hysterias, conduct disorders, depressions, confusions, delusions, or insanities) to look to the vital organs of the body—those most intimately connected with the supply of cerebral nutritive factors to the blood stream; to search with all the means at my command not only for disease, but for derangement of function of these vital structures; to eliminate pathologic foci, whether they be pus foci, inflammations, or reflex factors; and while doing this, to wear blinders when I approach that fascinating but poetical field which we may call the artificial garden of the endocrine plants.

Having done all these things to the best of my ability, and corrected the physical disorders, I may, if I fear failure, try my hand with some of the psychological cults—try to readjust some of the mental vertebræ, as does the osteopath, playing up and down the gamut of the endocrines. But, as I grow older, I play the mental chiropractic tune with less and less confidence, and fall back on the sober truth taught by those master clinicians — Wood, Pepper, Mitchell, Burr, and Lloyd; for I have, after all, in this most complex field of work, the final realization that I am a doctor.

ABSTRACT OF DISCUSSION

George M. Dorrance, M.D. (Philadelphia, Pa.): We have had three antrum cases referred to us for operation which belong somewhere in this group. Many examinations had been made, but the patients were considered too sick to have any treatment. After draining the antrum in the routine way, all three cases cleared up entirely, although two of the patients were women so nervous that I did not want to operate.

In another case, after gall-bladder drainage, the patient returned to his work and assumed a very responsible position in the community, although I had thought he was insane, and preferred not to operate.

In the case of a woman who was very violent, with queer sexual ideas, etc., complete recovery ensued after we removed the gall bladder and found a staphylococcic infection.

We have had cases which cleared up after drainage of the bladder, and excision of the prostate. However, some patients fail to improve after removal or drainage of the gall bladder. Such treatment does not always clear up mental conditions, but a certain number of cases referred to us by neurologists have entirely recovered.

This is a very interesting field, but one must not take too much for granted, as surgical removal may not cure cases of focal infections or toxic conditions of the liver causing nervous phenomena. Surgery must be followed by further treatment for the mental condition.

George J. Wright, M.D. (Pittsburgh, Pa.): About six years ago, a very distinguished neurologist pointed out to me that the real interest is in functional disorders rather than in organic nervous diseases, because in the latter the patient most often dies, while in the former, it is possible to restore many people to a life of usefulness and happiness. As physicians, our function is to keep the greatest possible number of people working and happy. A nervous affection is as much a casualty as a broken leg, and we should try to the best of our ability to restore the disabled one.

In recent years we have heard a lot about psychoanalysis and Freudianism, and it is implied that there is a special technic that some persons can employ and others cannot. This is not quite true. The problem of the nervous person is the problem of the physician. The first thing to do is to get the history of the case for years back. The second is to make as complete a physical and laboratory study as possible, employing the aid of colleagues in other specialties as indicated. A summary of the facts can then be made, but the difficulty comes in their final interpretation, assigning to each its proper place, and determining how far the physical factors are operative, and how far the purely emotional or psychological. A common-sense knowledge of medicine and psychology, together with some conception of the psycho-biology and the psycho-physiology of the emotions, will lead to a fairly good understanding of most of the problems in this field of medical science.

Dr. McCarthy's paper, I fear, will leave the impression that the physical factors predominate in the problem of the psychoneuroses in general. If there is a definite physical factor, its removal is often very important; on the other hand, there are marked consti-

tutional and emotional factors, and it is the part of the neurologist to differentiate and evaluate these as against the physical. Promises must be made with care. Surgical care may not solve the problem at all, and a mistake makes the patient worse. My experience has been that in most instances a large part of the trouble is due to poor thinking and poor judgment on a background of great emotional instability which must be corrected by reasoning, explanation, reassurance, and the like.

Recently I treated a woman aged 32 who presented some of the characteristics of a neurosis. The hospital study revealed these physical factors: flat feet, a sacro-iliac condition, an abdominal condition with adhesions, a retroflexion of the uterus, with some atresia which caused definite discomfort at her monthly periods, and a mental state that really frightened me. I found that she had had some little sexual experience in her adolescent life, and believed her hymen had been ruptured. From 20 to 32 she suffered mental agony because she felt she was unfit for matrimony. She had refused several offers of marriage, and although very capable and attractive, had forced herself to adopt a plan contrary to her instincts and desires. The assurance that she was intact relieved her mind, and after a few weeks of rest, encouragement, and explanation, she was brought to a higher and more stable emotional plane. Then the physical factors were given attention. For the orthopedic condition she was given proper shoes, and an operation relieved the pelvic pathology. This, I feel, was a common-sense study of this case. The physical factors were treated, but the primary factor in her neurosis was the emotional disturbance.

George Wilson, M.D. (Philadelphia, Pa.): The patient should be treated as a whole. It is obvious that the physician cannot deal with a structure such as the nervous system unless he is a good internist; on the other hand, the internist should have a working knowledge of the nervous system. Many useless operations would thus be saved that do the patient more harm than good.

In my experience, there is likely to be a preponderance of pulmonary tuberculosis and cardiorenal disease among the neurasthenics. In this type, therefore, a special effort should be made to find and correct physical defects, although a constitutional deficiency will not be benefited by operation. I treated a young woman with paralysis of the left leg of six months' duration. No evidence whatever of organic disease existed, and two treatments with static electricity helped her very much.

Cardiac and renal disorders are apt to be associated with cases of depression, although in this group there is a large percentage of defects purely constitutional in origin. Sexual elements are more apt to appear also; and if the so-called fancy or fear neuroses are included under depression, probably the practice of onanism is a factor. This is not an easy thing to correct.

On the question whether most psychoneurotics are inherently defective or constitutionally inferior (either from a physical or a Freudian point of view) we should steer a middle course. Even though inherently defective, by removing certain physical factors, the patient may sometimes be cured. So far as the Freudian element is concerned, it should be avoided rather than stressed. In the last three years, I have seen three cases of attempted suicide after a session with a Freudian.

IMPETIGO CONTAGIOSA*

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In the early days of dermatology, pus formation in the skin was considered a special disease, and to this the term impetigo was given. Various dermatologists had seen the different phases of the disease, so that it remained for Tilbury Fox to rescue this loose usage, and describe a definite symptom complex which he called "impetigo contagiosa."

Impetigo contagiosa is an acute, contagious, inflammatory disease of the skin, characterized by superficial, discrete, flat vesicles or blebs, which rapidly become seropurulent, and dry as thin yellowish crusts.

The clinical picture presented by a typical case of impetigo contagiosa is characterized by the presence of waferlike crusts superimposed on the skin in an irregular fashion, raw, weeping patches where the crusts have separated, and the presence of an occasional vesicle or bulla. The primary lesion is a superficial, wrinkled, flaccid vesicle or bleb, varying in size from a pinhead to a pea or larger, and arising from an erythematous base. The contents of the vesicle are at first clear fluid. In most cases, the horny layer which forms a roof to the vesicle is so thin that the slightest pressure causes rupture. There is usually no inflammatory areola. The vesicular stage may, therefore, be so slight as to pass unnoticed.

When the vesicle ruptures, serum exudes and dries into a thin, waferlike crust of straw color. The edges of the crust become detached and curl up, while the center is somewhat flat, giving the appearance described by Tilbury Fox as "stuck on." Beyond the margins of the crust, the epidermis is not infrequently raised up and undermined by serum. The greater the secondary contamination with staphylococci, the coarser are the crusts, and the more marked is the deep yellow or greenish hue.

The initial lesion may be single and tend to spread peripherally, or multiple lesions may occur and may coalesce and form crusts varying in size from a split pea to a silver twenty-five-cent piece or larger, some of which are round while others are irregular in outline. If the crust is removed, a red, raw, oozing surface is exposed, surrounded by a vesicular epidermic undermining. In a few days this red spot disappears, leaving no scar.

The eruption spreads rapidly, and is usually limited to the exposed surfaces—the face, neck,

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and hands—although any part of the body may become affected, more particularly in infants. A common location is behind the ears, where it is known as "postaural eczema." At the commissures of the mouth, associated with fissuring and masceration, desquamation or crusting of the vermilion border of the lips, it is known as perléche. When it occurs at the nasal orifices, it may block up the nares. On the eyelids, it may cause gluing together of the eyelashes, and occasionally a phlyctenular conjunctivitis and superficial corneal ulceration. When it attacks the external auditory canal, it is usually secondary to otorrhea. Its frequent occurrence on the scalp is usually associated with pediculi and enlarged cervical glands.

When the palms are affected, the lesions are seropustular, and not easily ruptured because of the thick epidermis. A common site is the side of the nail or the tip of the finger, where superficial whitlows are formed.

On the covered parts of the body typical lesions are comparatively rare, and instead, circinate, bullous, intertriginous, or papulovesicular lesions occur.

Subjective symptoms are practically nil except for itching, which may be present in the bearded region. In the bullous type, a systemic infection occurs in newborn infants, known as pemphigus neonatorum, the immunity in the adult being due largely to the local protective reaction to the streptococci.

The clinical appearances of impetigo contagiosa are varied, the disease presenting a greater variety of forms than any other superficial dermatitis. These forms are due to the age of the patient, the general state of nutrition and power of resistance of the skin, the region attacked, and the virulence of the special stain of streptococcus.

Accordingly, we may have circinate impetigo. In this type, exudation is not marked, the vesicles tend to spread peripherally, with central healing, producing a circinate contour varying in size from an inch or more in diameter. The borders may or may not be red, are crusted, and edged by a fringed, undermined epidermis. By coalescence of these lesions, gyrate figures are formed.

And again, we may have bullous impetigo, in which the lesions begin as one or more red spots, from pin-head to split-pea size. In about twelve hours the epidermis becomes raised, with a clear serous fluid. The vesicle thus formed extends peripherally, attaining the size of a silver quarter-dollar or larger. Because of the thinness of the vesicle wall and rubbing of the clothing, rupture easily takes place, leaving a shriveled epidermis, between the folds of which serum is present. About the third day, the contents of the unruptured vesicles becomes cloudy or tinged with streaks of yellow, the entire contents seldom becoming purulent. The blebs usually arise from the sound skin, without an areola or any sign of inflammation. The lesions may be round, oval, or horseshoe shaped. Upon removing the epidermis, a red, moist, and glazed surface is exposed to view, later becoming covered with thin, friable crusts or tissue-paperlike scales. After healing pigmentation remains for several weeks. The favorite locations for this type of the disease are the face, the hands, the axillæ, and there may even be a general distribution.

It must not be forgotten that in older children and adults, at times, a bullous impetigo may complicate vaccination or may occur independently. In infants, the disease is comparatively common, occurring sporadically or epidemically. It is known as pemphigus neonatorum.

Pemphigus neonatorum is a disease occasionally present at birth, but more frequently occurring several days or even weeks later. There are two types of the disease, the benign and the malignant.

The benign, however widely distributed, is not attended by constitutional symptoms, while the malignant form is. In the benign form, the lesions do not differ materially from the manifestations in the adult. The lesions tend to spread peripherally, to coalesce, and to form patches of considerable size. The initial lesion may occur on any part of the skin, the neck or fingers being the common sites. By autoinoculation, from scratching or from rubbing together of contiguous surfaces, as the inner aspects of the buttocks or the flexures of the joints, the disease rapidly spreads. In the mild cases, healing takes place with the formation of crusts similar to those seen in impetigo contagiosa. In the more acute cases, the lesions keep on spreading and new foci appearing until considerable portions of the body are involved, with the exception of the palms of the hands, the soles of the feet, the scalp, and the face.

In the malignant type, the lower abdomen is generally involved, with swelling and inflammation of the stump of the umbilical cord. Gradually, systemic symptoms appear, manifesting themselves by restlessness, anorexia, and vomiting; and later by diarrhea, subnormal temperature, dyspnea, and cyanosis.

Impetigo simplex is a name given by Duhring to a form of impetigo which differs from the usual type in that the lesions are primarily

pustular, have thick walls, are globular, and do not rupture or coalesce. This form is said to be noncontagious. The impetigo of Bockhart does not present a much different picture from the foregoing, except that the pustules are penetrated by hairs, and have, therefore, their seat at the mouth of hair follicles.

Impetigo complicates nearly all cases of severe smallpox during the stage of decrustation. It is also seen at times in chickenpox, or may follow vaccinia.

Impetigo is auto- and hetero-inoculable. The disease is due to an infection produced by streptococci, staphylococci, or both. About seventy-five per cent of the cases of impetigo occur in children of the poor classes, yet no class of society is exempt. In children, it is often associated with pyogenic nasal infection, or it may start in fissures or cold sores. It is a common sequel of parasitic diseases which cause scratching. Women are usually infected from children, while the barber shop is a frequent source of infection for men.

Epidemics are at times started through the exchange of clothing and the common use of towels (football impetigo, bathhouse impetigo). Montgomery and Morrow reported an increase in the number of cases of impetigo following the San Francisco fire, suggesting that the transmission of the disease was due to flies. In the infantile or epidemic form, infection is spread either by mediate or by immediate contact. Even with the strictest precautions, the malady, once it obtains a foothold in obstetrical wards, tends to spread rapidly. Another factor in the dissemination of this disease is the midwife.

The bacteriological studies of Crocker, Bockhart, Sabouraud, Gilchrist, C. J. White, Corlett, Engman, and others have established the fact that impetigo is due either to the streptococcus or staphylococcus.

The pathology is aptly and tersely set forth by Pusey, who states that the lesions are the result of a very superficial inflammatory process involving chiefly the epidermis and the papillary layer. The pustules are formed between the horny layer and the rete. There is no ulceration of the connective tissue, and no scarring follows it.

In a well-marked case of impetigo the diagnosis should present no difficulty. The discreteness and flaccidity of the vesicle, the "stuck-on" appearance of the crust, the red raw surfaces where the crusts have fallen off, and the infective character of the disease are symptoms not readily mistaken. From a pustular eczema it is distinguished by the lack of infiltration, weeping, itching, and by the presence, in addition to the pustular patches, of nonpustular eczematous lesions. In ecthyma the pustules are larger, deeper, flatter, with a bulky crust, surrounded by a red areola.

In ulcerating syphilids, there is destruction of the connective tissue and scar formation which is absent in impetigo. In congenital bullous syphilis, the lesions are usually confined to the palmar surfaces of the hands and the plantar surfaces of the feet, with other signs of hereditary syphilis, such as wasting, snuffles, the presence of copper-colored macules or papules, fissures at the angles of the mouth, and enlarged glands.

In varicella the lesions are smaller, more widely distributed, prefer the covered surfaces of the body, though frequently found in the mouth, and the attack is ushered in with fever. In pemphigus, the bullæ occur suddenly and there is not the same tendency to come out in crops. It is not inoculable, and there is an increase of eosinophils in the blood. It must not be forgotten that at times impetigo may mask a primary affection such as pediculosis or scabies.

Impetigo is readily amenable to treatment in one to three weeks, and the treatment is comparatively simple. Before any parasiticide ointment is applied the crusts must be removed, and if any existing pustules or vesicles are present these must be opened and the contents expressed. To accomplish this end, soap and hot water will usually suffice, but at times vaseline or cold cream or 2 per cent salicylic acid in olive oil may be required to soften the crusts. Following this, the antiseptic ointment is applied two or three times daily, and is well rubbed in.

The application of 2 to 5 per cent ammoniated mercury in vaseline or cold cream usually acts admirably. Mercurochrome salve in the same strength is another favorite prescription. To exceed these percentages is not necessary, and furthermore, too strong applications cause irritation of the skin and spread of the disease.

It sometimes happens that in the initial stage even a mild ammoniated-mercury ointment is not tolerated. For these cases, a wet dressing of 1 per cent Burow solution, or a saturated boric-acid solution may be applied. An aqueous solution consisting of 1½ per cent zinc-sulphate and ½ per cent copper-sulphate, applied to the individual lesions hourly and subsequently every third hour, generally brings about favorable results, though it may be necessary to revert to a mild ammoniated-mercury ointment to clear up the persistent lesions.

In pemphigus neonatorum the dry method

offers the best results. After the blebs have been opened and the lesions cleansed with boric-acid solution, a dusting powder consisting of 5 per cent to 10 per cent boric acid, or 1 per cent calomel, in equal parts of starch talcum should be liberally used.

When systemic invasion occurs, the infant should be kept warm and should be stimulated and treated along general principles. It is in this form that staphylococcus-aureus vaccines have proved beneficial.

PEMPHIGUS NEONATORUM CONTAGIOSUS*

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Believed to be due to a specific organism as yet not isolated and proven, this disease presents a distinct type of contagious disease of early infancy, coming first under the observation of the obstetrician or midwife. Because of its latent seriousness and especial contagiousness it deserves more recognition and study than seems to have been accorded it in the past ten years.

The ease with which we have been able at the Presbyterian Hospital in Philadelphia to control the continuance of each epidemic, two of which have occurred in the past five years, one early in the spring of 1923 and one in July of this year, has led me to present this résumé of the literature on the subject and to urge early recognition and isolation and a greater respect for the seriousness of the disease, if it is allowed to spread.

Etiology

Upon the following points in etiology there seems to be some unanimity. The predisposing factors are many, and include any condition which lowers the resistance of the skin to the infecting organism. Age is very important; as a general rule the disease appears within the first two weeks of life. It frequently is transmitted to adults and older children who come in direct contact with it. In adults an indirect resistance usually limits the infection, producing an abortive type of eruption. Nursing mothers frequently develop lesions on the breast similar to those on the skin of the child, and occasionally nurses and midwives develop similar lesions. Sex or race has no bearing on the cause.

Climate has a very marked effect on the incidence of the disease. It is much more common in the tropics and in warm countries than in the temperate and cold climates. It seems to be more common and more severe in the white races when the children are born in the tropics. Clegg and Wherry have stated that in the Civil Hospital in Manila, P. I., every baby born in the institution contracts the disease in the first ten days of life. Enough records of seasonal incidence of epidemics have not been presented to form any conclusion; although the excessive heat and humidity of the summer months may, by producing irritation of the sweat glands, offer a predisposing factor.

The condition of the parturient canal has little bearing on this disease.

There is a marked difference of opinion concerning the true etiology, the exciting organism, and the relation to impetigo. Kaposi believed that it was simply an increased exfoliation (physiologic) taking place after birth, and others of the older writers mention mycoses. The following authors found the staphylococcus in the skin lesions in a number of cases: Lewandowsky, Engman, Call, MacGuire, Schwartz, and Köhler. Della Favera and Hofman not only found the staphylococcus in the vesicles, but also in the blood. Almquist in 1890 studied an epidemic in all the maternity hospitals in Gottenborg. Despite all attempts at disinfection and isolation, the epidemic lasted six months; 134 of the 216 children were attacked, and four died. Several of the mothers were also affected with lesions on the breasts. He regularly isolated an organism much like the staphylococcus aureus with which he inoculated himself and produced vesicles. He considered, however, that the organism, on account of cultural characteristics, should be differentiated from the staphylococcus. Clegg and Wherry have isolated a diplococcus much like Almquist's organism, which they termed micrococcus pemphigi contagionis. They state that it was found by them in all the five cases investigated at the Manila (P. I.) Civil Hospital. Moreover, they state that practically every child in this hospital had pemphigus neonatorum. Manson has also found a diplococcus, while Holt in one case found the staphylococcus, streptococcus and bacillus lactis aërogenes at necropsy. Foerster asserts that there is no causative organism; while Bloch, in a carefully studied series of fifteen cases from Baginsky's clinic, found in eight coming to necropsy pure cultures of the streptococcus in the blood and of the staphylococcus in the skin lesions. He thought that in all of them there was a mixed infection, and that the streptococcus worked the deleterious influence. The majority of the

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writers, however, feel that some form of staphylococcus bears an etiologic relationship to the disease.

N. H. Cole and H. O. Ruh[1] reported a series of eight or possibly nine cases of infantile pemphygoid in which the staphylococcus aureus was cultivated in pure culture in all cases where unbroken vesicles could be found. In the first case a bacteremia developed, resulting in death on the twelfth day of the disease. In other cases the use of autogenous vaccine seemed to give prompt results when other measures failed. In this review we find a staphylococcus appearing uniformly in most studies, a streptococcus occasionally, the staphylococcus having cultural characteristics differing from the Staphylococcus aureus.

In two articles by Ralph R. Mellon and Dorothy W. Caldwell[2] we find first an enthusiastic presentation of the possibility of mother's milk causing pemphigus neonatorum, and then a saner review of the known facts of such a cause summed up as follows:

Normally, human milk usually contains nonpigmented staphylococci and a varying percentage contains pigmented staphylococci. The fact that Staphylococcus aureus is the probable cause of pemphigus neonatorum opens the possibility that the milk may in certain instances be a source of such infection; namely, when the cocci they contain are virulent for the infant. It is not contended that the observations so far made are sufficient to establish human milk as a source of such infection.

Although cases are reported in which the carrier seems to be an adult with impetigo, the manifestations of most epidemics of true pemphigus neonatorum in hospitals cannot be traced to contact with impetigo. The reverse is also true, although occasionally a case of impetigo follows an epidemic of pemphigus. The abortion of the pemphigus attack so common in nursing mothers, and the extreme susceptibility of older children and adults to impetigo must lead us to conclude that they are of different origin, or that something different exists in the skin of the infant, producing a different manifestation.

F. H. Falls[3] recites isolated cases. In older people the condition is often present as an impetigo, and a case is on record in which a typical impetigo on the face of a father was transmitted and gave rise to pemphigus neonatorum in a baby. A similar incident is supposed to have started the epidemic at the Cook County Hospital this year. A mother with an impetigo around the mouth on admittance was confined and her baby on the fourth day thereafter developed lesions from which many other babies contracted typical pemphigus neonatorum.

Bruno Feilchenfeld[4] states that the identity of these two diseases is accepted by various authors, and reports a case in which pemphigus neonatorum first appeared. Several days later a three-year-old sister presented signs of pemphigus vesicles and impetigo crusts. Finally a sister one and a half years old developed typical impetigo contagiosa. Another case is reported in which, in a child one year old pemphigus vesicles appeared at first, and later, in other places, impetigo crusts, whereupon further pemphigus manifestations arose. To exclude an accidental combination with certainty, more cases of this nature must be studied.

Richard Gralka[5] states: Although nothing definite is known concerning the causative agent of this disease, it is noted that the successive crops of bullæ are caused by auto-infection from the preceding series, and that medical treatment can prevent this auto-infection but not the formation of bullæ at points already infected. If numerous regions are involved and the affected area is extensive, prognosis is dubious.

Two reports of epidemics also appear in the literature, one in relation to exfoliative dermatitis, and one in relation to pemphigoid measles and pemphigus in measles. These reports are, however, isolated and of only academic interest.

The predisposing factors in this disease are many, and include any condition which lowers the resistance of the skin to the infecting organism.

Course of the Disease

The mild form of the disease usually develops sparse isolated blebs on the buttocks and limbs, extends slowly to the other parts of the infant's body, is without fever or systemic manifestation, and runs a course of about three weeks, somewhat modified by treatment. In the same epidemic some few infants may manifest a large bullouslike eruption, becoming confluent, either with or without fever, and with a severe general toxemia, and often death.

A description of the development of a typical epidemic may explain the existence of the two forms—the milder type, and the bullous type with systemic symptoms and often death.

We are met in the newborn by numerous skin manifestations which never develop into pemphigus, and to which an expectant treatment is rightly applied. It is during this period

of expectancy that pemphigus spreads, and perhaps develops into the more virulent type, or finds less resistant infants.

One of the not uncommon conditions is an exfoliation of the skin of the newborn, due to some change in the amniotic fluid. This is not inflammatory in type, does not spread by contact, and if bullæ are present they are flaccid, the skin primarily softened by the fluid. In other cases there are the skin eruptions and exfoliations occurring at times in children born of syphilitic parents. These also are not of an acute inflammatory type. The exfoliation is usually on the palmar and plantar surfaces, while in pemphigus the eruption is on the chest, abdomen, and limbs. Another eruption, the sudamina or even pustular eruption associated with excessive heat and humidity, may be transient, harmless, and disappear without attaining any form or character, or, from scratching or lack of resistance, may assume the importance of a primary stage of pemphigus.

Prophylaxis

It is important to observe the following points in the prevention of epidemics: (1) Immediate recognition and isolation of both infected babies and mothers. (2) The use of shower baths in bathing of infants, and of individual articles for each baby in the nursery. (3) Sterilization of all infant clothing in the laundry. (4) Aseptic and often antiseptic care of the mother's breasts. (5) Rigid inspection of all visitors and possible carriers. (6) Active treatment of the skin of such infants as show any predisposing irritation. (7) After isolation of active cases, thorough cleansing of the nursery and equipment with antiseptics, permitting none of the old cases to return to the clean nursery. (8) Assignment of different nurses for infected and clean cases. (9) Removal of all cases to their homes for individual treatment as soon as possible.

Treatment

The treatment of the active lesions should consist in rupturing each vesicle, cleansing it with alcohol, and recently we have been touching the base with mercurochrome. Some form of mercury has usually entered into the treatment. If one favors ointments, white-precipitate ointment (2 per cent) may be applied after cleansing the lesions. A bichlorid bath (1:4000) also may be used with care. Autogenous vaccines have also been tried in severe forms, but the success has not been uniform. In septicemia, vaccines may be harmful rather than helpful.

Richard Gralka[5] supplemented the medicinal treatment of eight cases in newborn and three in other infants by irradiation with artificial mountain sunlight. He employed Hageman's incandescent lamp ring, as recommended by Bach, because the quartz light is composed almost exclusively of ultraviolet rays, which Strebel and Dieudonne claim have a pronounced germicidal power. If this is true, by appropriate dosage it ought to be possible to prevent the extension of efflorescences and their spread to new points. Pemphigus bullæ which had already developed were opened before irradiation and the contents removed by careful swabbing, without protection of the surrounding area with an ointment. The usual treatment of the base of the bullæ was not started until after irradiation. Both the anterior and posterior aspects of the body (the eyes being protected) were irradiated every day, usually from a distance of 90 cm., at first for 3 to 5 hours, and later for a longer period. After the disease had disappeared, a few additional irradiations were applied at intervals of 1 to 2 days. This treatment shortened the pathologic process, and prevented secondary infection even in cases with dubious prognosis. Although it will not supplant medical treatment, the method is a valuable adjuvant.

Searching for a carrier and elimination of the cause is a final touch in any epidemic.

Nurses and others should wear gloves and gowns, not only to save themselves but to prevent spread of disease.

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ABSTRACT OF DISCUSSION

On Papers by Drs. Wertheimer and Foulkrod

Dr. James H. McKee (Philadelphia): Herding of newborn babies in a nursery is wrong. While there are some hospitals whose structure cannot be modified at the present time, in the construction of new hospitals this question should be considered. Newborn babies have an immunity, acquired from their mothers, to many diseases, but they are not immune to the various germs of suppuration. Obstetric hospitals should, therefore, be constructed with a separate niche for the baby off the mother's room, so that the child may be kept apart from the mother and yet not be brought in contact with a number of other newborn babies, all of whom may be susceptible.

Dr. George J. Feldstein (Pittsburgh, Pa.): Although impetigo contagiosa is usually a mild and superficial disease, there occurs, rarely, a very severe form

of nephritis complicating it. Therefore, it is advisable to examine the urine in all protracted cases. In the malnourished and cachectic, very rarely a generalized infection may develop. I have seen autopsies of cases in which multiple small abscesses were found in various organs, especially the kidneys. In some cases suppurative arthritis and osteomyelitis are found. This type is rarely seen in this country.

Dr. Wertheimer (in closing): Pemphigus neonatorum is due either to a streptococcus or a staphylococcus, or both. There may also be another microörganism of which we do not know, and it might give us a very clear picture of the causative factor.

I have not seen any cases of true impetigo contagiosa which caused death. Just recently I saw a two-year-old child with impetiginous eczema. From rubbing and scratching, a furunculosis developed, followed by blood-stream infection and death. I was told that three or four such cases had been treated in the hospital.

There was one point in which I should differ with Dr. Foulkrod. My teaching in Vienna was that in an infant up to six months of age the disease would be termed pemph'gus neonatorum; after that it would be called impetigo contagiosa.

Nine Case Reports*

ACUTE MASTOIDITIS WITH COMPLICATIONS

JOHN F. CULP, M.D.
HARRISBURG, PA.

On June 28, 1924, I was called to see a boy, 3½ years old, who had been ill for about one month with rather indefinite symptoms. For the two weeks before I saw him, he complained of intense frontal headaches, with high fever at times and some night sweats. The pain in the head was so severe that his parents feared he had developed meningitis. He cried a good deal, especially when moved. His vision seemed to be much impaired, for he was not able to see farther than the foot of his crib. The symptom that impressed the young parents most, however, was that he acted queerly and seemed to be in a daze. His temperature at this time was 102.5° at noon. Examination of the ear showed a slight perforation of the posterior middle quadrant of the left membrana tympani, with only moderate discharge. There was a slight lowering of the posterior canal wall. No swelling, tenderness, or redness over the mastoid process was detected, nor was there swelling or tenderness on this side of the neck. Movement of the left leg and hip caused much pain. A tentative diagnosis of "mastoiditis with probable metastasis" was made.

On June 30th, he was again seen and, as his condition had not improved, he was admitted to the Harrisburg Hospital. Examination of the eye grounds showed a moderate edema of both optic nerves (low-grade optic neuritis) with alternating strabismus. Vision was very poor, much worse than the ocular findings seemed to indicate, and there was much mental confusion. The blood examination showed a leukocytosis of 26,000, the polynuclears being 76%. The urine contained a trace of albumin but no casts. A blood culture showed no bacteriemia.

On operation, the entire left mastoid process was found softened, and a perisinuous abscess was uncovered. The lateral sinus was found thrombosed and a dull reddish-gray in color. The anterior portion of this vein was dissected away to a considerable extent, and free bleeding from the cerebral end was obtained. Bleeding from the jugular end of the vein, however, was only moderate. Curettement of this portion was limited for fear that some part of the clot would enter the general circulation. Resection of the jugular vein would have been done before opening the sinus if the patient's condition had permitted. The progress of the case was such, however, that this was unnecesasry. Culture from the perisinuous abscess and from the clot in the vein showed hemolytic streptococcus in pure culture.

The progress of the case was comparatively rapid. The temperature was that of a rather typical lateral-sinus thrombosis, never going above 103-2/5°, and never going down to normal during his month's stay in the hospital. It is quite probable that the hip complication was responsible for the temperature keeping up for this length of time. The partial blindness rapidly cleared up, and examination on July 4th, showed that the edema of the nerves had completely disappeared, although on July 8th, the strabismus was worse and the hip joint was more painful. On July 13th, the blood showed 7,900 leukocytes and 60% polynuclears. At this time the eye ground was normal. A radiograph on July 20th, showed slight rarefaction of the epiphysis and the neck of the left femur. On September 1st, nine weeks after the operation, the mastoid wound was entirely healed, the hip also seemed to be cured, the child was able to walk some, and practically all other evidences of the disease had disappeared. His hearing in the affected ear seemed to be almost as good as that of the opposite ear, although in such a small child it is impossible to obtain precise hearing tests.

There are two points that should be emphasized in this case: (1) the existence for some time of a serious ear disease with cerebral complications, without any apparent local symptoms; (2) the immediate relief of all grave symptoms, following the operation.

*Read before the Section on Eye, Ear, Nose and Throat Diseases of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

In just what manner the above-mentioned pathology of the eye occurs in connection with the lateral-sinus disease is not quite clear to me. It is not the same kind of edema that is due to increased intracranial pressure *per se,* but rather to the type that is sometimes seen in nasal-accessory-sinus disease and in various other focal infections. Examination of the literature for the past ten years fails to show one single case of retinitis as a complication of lateral-sinus thrombosis, although there have been quite a number of reported cases of edema of the optic discs and optic neuritis. In some hospitals with large ear clinics, routine examination of the eye grounds shows as high as 10 or 15 per cent of edema of the optic disc occurring in cases of lateral-sinus thrombosis, and it is quite possible that, if a routine examination were conducted in every case of suppurative disease of the ear, a much larger percentage of this eye complication would be found than is generally supposed.

224 Pine Street.

OSTEITIS DEFORMANS INVOLVING THE CRANIAL BONES WITH CHANGES IN THE AUDITORY APPARATUS

HARVEY MAYOR BECKER, M.D.
SUNBURY, PA.

The patient, a white woman, aged 53, first consulted the writer during July, 1921, stating that for six or eight years she had noticed a gradual enlargement of her head, with increasing vertigo and tinnitus and simultaneous reduction in hearing. The diagnosis of osteitis deformans was made. There was considerable enlargement of the head, but unfortunately, measurements were not taken at that time.

Epipharyngitis was present, with thickened and degenerated membranes and free mucopus discharge. There was rather free bleeding during treatment. Tinnitus was most distressing at this time. Following a brief course of treatment, inflation, for diagnostic purposes, became possible. There was moderate improvement in hearing, and complete recovery from tinnitus for a short time. Vertigo persisted uninfluenced.

The external auditory canals were dry, with moderate eczematous eruption. The lumen was small, in most marked circular form about one-fourth inch external to the tympanic membranes. There was slight displacement of these membranes anteroposteriorly, with moderate retraction of the antero-inferior quadrants, and some loss of luster. Slight redness of the superior quadrants was noted, but no calcium deposits.

Hearing was about equal in both ears, tinnitus possibly being worse in the left. The patient could hear a loud conversational voice, and interpret when one person was speaking, but easily became confused when several were speaking at the same time. Forks of 512 double variations were heard at 1 inch and 1024 d.v. at 2 feet, with each ear. A complete description of the fork tests is omitted for lack of space. There was prolonged bone conduction, with some elevation of the lower tone limit—512 d.v. The upper limit was not found with accuracy, but was probably not higher than 1024 d.v. The Rinne test was negative, and the Weber not lateralized.

During November, 1922, she entered a Philadelphia hospital for a two-weeks' study. The diagnosis of osteitis deformans was confirmed. The laboratory reports for urine, blood, spinal fluid, and Wassermann were negative. The report from the otological department, at this time, stated: "Hearing reduced. Bárány tests show marked vestibular pressure, especially exerted in posterior fossæ."

Eye symptoms were not pronounced. There was no diplopia, and rarely pain. In the right eye, there was esophoria and hyperphoria of 1 degree. The pupils were normal, the tension 28 and 32. Vision, with correction, was 6/6 and 50 J. at 14 inches U. O. Color perception was normal. The field of vision was moderately and uniformly contracted. No scotomas were found. The media were clear. The arteries appeared small, with thickened walls, and there was some venous compression with slight dilatation. Calcification of walls was not found. The disks were round-oval and of good tint. There was a narrow scleral ring, and slightly hazy margins, with slight degeneration at the lower temporal. There was no cupping. Papilledema was not found, at numerous examinations.

Due to the writer's illness, the patient was not seen for over two years, during which time great enlargement of the cranial bones has taken place, so that now the head measures 46 cm. (18¼ inches) from the glabella to the inion, and 72 cm. (28½ inches) around the temples.

Apparently all the bones of the head are involved in the thickening and enlargement except the upper maxillary, nasal, and turbinates. This gives a peculiar sunken appearance to the face, the expansion of the mandible causing moderate prognathism. While there is wide separation of the orbits (pupillary distance of 70 mm.), with thickening and enlargement of the ethmoidal capsule, the turbinates appear to be of normal size, as does also the nasal spine. The sphenoethmoidal recess, however, is nearly obliterated. Sinus disease is apparently absent. The sense of smell is not impaired.

A study of the bones shows marked enlargement over the mastoid, temporal, and zygomatic regions. The external canals are very small, barely admitting the ordinary safety match, and examination of the deeper structures is now made with difficulty and considerable uncertainty. An x-ray of the calvarium shows thickening of 1 to 1½ inches, the inner surface smooth, the outer surface rough and with a worm-eaten appearance. All teeth having been extracted a number of years ago, because they "became loose in the jaws," their spacing cannot be noted at this time. Dentures worn, especially the lower, are quite large.

There are decided vascular changes. Veins over the temples are greatly enlarged and tortuous. Upon exertion they become sacculated, with pulsation at various points. Their walls are undergoing calcareous degeneration. The temporal arteries are enlarged, and appear hard, as do the radials at the wrists.

As time has gone on, all symptoms have been gradually augmented. Hearing is practically lost, no forks being heard by air conduction, and the voice only by shouting directly into the left ear. Vertigo has greatly increased, and is most marked when stooping and rising, or when looking upward, with a tendency to fall forward. When the eyes are closed, vertigo is increased, which is also true when walking in the dark. The reason for this appears evident and requires no discussion. Nausea and vomiting have not occurred. For the last two years headache has been nearly constant, varying in intensity.

Bárány tests made in 1921 showed reaction from all canals, though with a nearly uniform shortening of 50 per cent in time. Past-pointing and falling were rather indefinite, and were not interpreted with sufficient clarity to report to the profession.

Bárány tests recently made are peculiar and not fully interpreted by the writer. With head erect, ten turns to the right in twenty seconds produced a lateral nystagmus to the left of nineteen seconds. All other tests, with head erect and in horizontal positions, were negative for nystagmus and nonproductive of vertigo. The swaying, for a few seconds, of the large, heavy head, was the only result. With the head tilted back thirty degrees, rotation to the right produced some nausea, but no nystagmus or vertigo. The caloric test was negative. One phase not understood is that the intense headaches were relieved by the caloric (cold) test, and did not recur for one year. Subsequent trials failed to produce the same result. Pointing and falling reactions were absent.

LINGUAL QUINSY

GEORGE B. JOBSON, M.D.
FRANKLIN, PA.

The Rev. J. J. B., aged 50 years, was sent to the Franklin Hospital, and placed in my care by his family physician, who supplied the following history:

"The patient had had chronic myocarditis since 1918, which followed an attack of influenza. On February 2, 1925, he became ill with a sore throat, a sensation of chilliness, and aching of the entire body. He had slight difficulty in swallowing. February 3d, the symptoms were about the same. A throat examination showed an inflamed postpharyngeal wall, and there was pain at the base of the tongue when the tongue depressor was used. The faucial tonsils and palate were normal. The temperature was 101° F., pulse 100. On February 4th, he complained of swelling of the neck muscles, which was not appreciable on inspection. The throat was almost closed from swelling of the base of the tongue. The temperature varied from 100° to 103° F.; pulse 110. He had great difficulty in swallowing, but not in breathing, and was becoming septic.

"February 6th, the sepsis was increased and morphin was required to control restlessness. The patient had to sit up to swallow. There was no dyspnea. Slight edema appeared on the left side of the neck, below the ramus of the jaw. From this time to February 12th, the condition remained about the same, except that sepsis and delirium increased. Swelling of neck was quite marked. The temperature ranged from 101° to 103° F. On February 13th, an abscess ruptured in his throat, and a large quantity of foul pus mixed with blood was expectorated. The patient continued to expectorate bloody pus until the next afternoon, when he had a hemorrhage, with loss of a pint of blood."

He was sent to the hospital, and with Drs. Mock and Cunningham, I saw him upon his arrival at midnight. Hemorrhage occurred on the way to the hospital, and he was bleeding and greatly prostrated when admitted. Axillary temperature was 98.3° F.; pulse 80, and very weak. The palate, uvula, and faucial tonsils were normal. The base of the tongue was only slightly swollen, reduction being due to rupture of the abscess. A large ragged ulcer was seen at the left side of the lingual tonsil, and it was from here that the blood was coming. Firm pressure with a gauze sponge saturated with a blood coagulant, stopped the flow of blood.

Marked puffy swelling on the left side of the neck caused us to decide that an exploration for

pus should be made. This I did from the outside, by incising the skin and inserting the end of a closed hemostat to a considerable depth in several directions and opening it, but nothing except frothy blood exuded. The bubbles which made the blood froth were probably due to gas or air in the tissue. Ten minims of adrenalin solution was given hypodermically, and protoclysis of saline solution was used. Later, strychnin and digitalin were administered, but the patient grew weaker, and succumbed at ten o'clock the following day.

FOREIGN BODY IN THE NASAL CHAMBER

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OIL CITY, PA.

A girl, aged five years, one of seven children who were all healthy, was brought to my office by her parents for examination in 1922. They were alarmed over the child's general condition, due to the loss of weight and appetite, which they had noticed for the past three months. They had also noticed the child was not so active and did not care to play like she always had in the past.

The general symptoms were much more pronounced, upon first examination, than the local. They were strikingly similar to tuberculosis in children. The local, or nasal, symptoms were almost nil. There was only a slight watery discharge from the right nostril. A brief examination of the nasal chamber was made, and even in this hurried examination, the child objected very strenuously, so it was believed best to make another nasal examination some time later. The time was taken up at this first examination mostly by telling the child fairy stories, in order to gain her confidence. The confidence of the patient is the first requisite to a complete and thorough examination in children.

My diagnosis of the local condition was not determined, although I was fairly satisfied that I saw a polypus. This would not account for the general symptoms, and the parents were advised to return with the child for another nasal examination which would serve a double purpose; namely, give me an opportunity to study and think over the case, as well as to get better acquainted with the child by another examination.

I was quite satisfied as to the polypus condition, but the general symptoms were misleading. No x-ray picture was taken. Tuberculosis, as well as a polypus in the nasal chamber, was thought to be the correct diagnosis.

The parents returned to the office at the appointed time with the child for the second examination. At this examination, it was noticed that considerably more mucus was coming from the right nostril, and the upper lip was swollen and inflamed. General and local condition seemed worse. Syphilis and malignancy were thought of as a possible condition, but the latter was ruled out on account of the rarity of malignancy in a child of this age. Syphilis, too, was unlikely, although it is always well to keep it in mind, as we have all seen cases of nasal syphilis presenting somewhat similar symptoms. A foreign body was thought possible, in spite of the negative history given by the parents, because of the one-sided nasal discharge. The parents were positive the child had not placed anything in the nostril.

This second examination confirmed my diagnosis of a polypus, for upon examination under good illumination of the right nasal chamber, its outlines could easily be made out.

Nothing further was done that day, but an appointed hour was given for the next morning to remove the polypus and, upon arrival of the patient, the case was prepared in the usual way for such an operation under local anesthesia. The anesthetic used was a spray of four-per-cent cocain with one five-thousandth adrenalin, sprayed in the nostril, twenty minutes before the operation. It is well to state here that the septum was deviated considerably to the right, making the removal of the large polypus rather difficult. Inserting the small nasal snare, with the expectation of removing a second polypus, I was surprised when I removed, instead, a rubber tack, the exact size and shape of an ordinary carpet tack.

Upon further questioning the surprised parents, they stated that the children had used these tacks in playing some particular game, but they positively declared that it had been over a year since the children had had any such tacks.

The child's condition immediately improved after the removal of the rubber tack, and she has been in good health ever since. This case goes to show how long a good-sized foreign body can remain in the nose without giving the least discomfort, yet showing alarming general symptoms.

In conclusion, let me state that, in the case of children, it is not easy to make a positive diagnosis of a foreign body in the nasal chambers, unless the case is a recent one. Nor is it easy, or always wise, to remove any foreign body under local anesthetic. I prefer it, whenever it is possible, but should not hesitate to give ether if the case at hand demanded a general anesthetic.

REMOVAL OF WATERMELON SEED FROM RIGHT BRONCHUS OF A CHILD

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JOHNSTOWN, PA.

A four-year-old boy was brought to the Conemaugh Valley Memorial Hospital in July, 1924, with distressing dyspnea, periods of extreme cyanosis, and a cough. The afternoon temperature was 102°.

The personal and family history were both negative. On July 4th (three days before admission to the hospital) the child was playing on the floor with his toys and a few watermelon seeds. Suddenly the mother noticed him coughing and gasping for breath. This lasted for a few minutes and then disappeared, only to recur at intervals of a half hour, the intervals at times extending to an hour. Twenty-four hours after the first coughing spell, 20,000 units of antitoxin were given, in the belief that laryngeal diphtheria had developed. Twenty-four hours later, the child's condition becoming increasingly alarming, the parents brought him to the Memorial Hospital.

The physical examination revealed nothing of importance except in the respiratory system, where the findings were as follows: (1) inspiratory dyspnea with depression of the xiphisternum and dilatation of the alæ nasi; (2) some lagging of the left side; (3) a definite asthmatoid wheeze heard at the mouth; (4) somewhat diminished breath sounds in the left lower lobe, with normal volume in the left upper lobe. An occasional sticky râle was heard in the left lower lobe. Over the left main bronchus posteriorly a definite stridor was occasionally heard. The right lung was negative to auscultation. The x-ray examination was negative.

Having made a diagnosis of a foreign body in the left main bronchus, on July 8th bronchoscopy was performed without anesthesia, and a watermelon seed was removed from the right main bronchus. The time of operation was two minutes.

It will be noted that all the findings pointed toward the left lung as the seat of the foreign body. This may readily be explained by the fact that the seed was not tightly held in the lumen of the bronchus, and easily could have shifted during a coughing attack from the left to the right.

The case presented practically all the usual physical signs with the possible exception of the "muffled tympany" noted by Dr. Jackson. This phenomenon he has explained by assuming that during inspiration a little air is allowed to pass the foreign body with the widening of the lumen of the bronchus known to occur during this phase of the respiratory cycle. With the narrowing of the lumen, the air is prevented from escaping, so that, during the early stages of the condition, air is maintained under pressure on the affected side. Later, marked dullness, increasing flatness, is noted below the foreign body, on percussion toward the base. This is due to the accumulation of secretions in the air passages below the obstruction, and has been termed "drowned lung." The increased air pressure is responsible for the three roentgenographic signs so clearly defined by Dr. W. F. Manges: increased transparency over the entire affected side, depression of the diaphragm on the affected side, displacement of the heart and mediastinal structure away from the affected side.

The three important points illustrated by this case are: the significance of the history, the fact that the foreign body may be transparent to the x-ray, and the possibility of its quickly shifting in the lung.

COMPLETE UNILATERAL CONGENITAL BONY ATRESIA OF THE POSTNASAL SPACE

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WILLIAMSPORT, PA.

The patient was a small, poorly nourished girl, 18 months of age, with a history of chronic mucopurulent discharge from the right side of the nose since birth.

Examination showed the face quite asymmetric, with flattening on the right side, and the upper lip protruding. The x-ray showed a well-developed antrum, the size of a large hickory nut, on the left; but that on the right was only the size of a pea. The posterior nasopharyngeal wall was low and farther forward than normal. The obstructing bony wall could not be distinguished on the x-ray plate, as it blended with the surrounding tissues. Probing through the nose disclosed a firm bony partition between the posterior ethmoid region and the upper nasopharyngeal space. Injections of various staining solutions showed no communication between the anterior and posterior nares. Wassermann of both parents was negative.

At operation, under ether, using a sphenoid punch, a small opening was made in this plate, which was found to be at least one-eighth to one-fourth inch in thickness. This opening was then enlarged to finger-tip size by various instruments—chiefly a sharp mastoid curet—cutting in a circular rotating manner. The bony

obstruction was removed to the midline and to the roof of the hard palate.

Nasal breathing was obtained, and all the local symptoms cleared up. It is now two years since the operation. The child has had no nasal discharge, and the antrum on the right side has developed to the size of that on the left. The face is no longer asymmetric, and the general health is good. Examination shows, however, a much smaller opening than existed directly after the operation, and further interference will likely be necessary when the child is older.

IMMATURE CATARACT IN A MYOPE

Extraction With Loop and Corneal Suture

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PHILADELPHIA, PA.

The object in presenting this case is simply to emphasize the possibility of the successful extraction of an immature cataract in a myope by the use of the loop, and the safe occlusion of the wound with a mattress suture.

The patient, Mrs. H. E., aged 78, was first seen by me more than thirty years ago (1893), with vision of 8/200 in 0^2. Hyalitis was present, with large floating masses in the vitreous. Under the use of iodids for three months, the vision improved to

O.D. S — 6.D = C — 3.50D Ax 10° = 20/50 pt.
O.S. S — 8.D = C — 1.50D Ax 180° = 20/70 pt.
ADD { O.D. S + 4.D = J-14
{ O.S. S + 4.D = J-6

When examined on April 4, 1924, she was incapacitated by immature cortical cataract in both eyes, with opaque spicules down and in. There was no iris shadow, and probably a waxy lens. Vision in 0^2=2/200 J-20 not improved by glasses. Tension was normal. Iris was free. The cataracts, although translucent, were stationary.

It was decided to perform combined extraction with loop and suture. After inserting my double-armed suture into the cornea and sclera, and passing the Graefe knife between the threads, the Ziegler barbed vectis was introduced, and the lens drawn out. Not a drop of vitreous was lost. The healing was uneventful. A secondary cataract later appeared, which demonstrated the fact that the anterior capsule was stripped off and left *in situ* as the lens emerged. One year later, the left eye was similarly operated upon, with the same result, and also healed without any disturbance. After a V-shaped capsulotomy in both eyes, the refraction on June 30, 1925, was

O.D. S + 1.D = C + 2.D Ax 45° = 20/70
O.S. S + 1.D = C + 2.75D Ax 180° = 20/200
ADD { O.D. S + 4.D = J-10
{ O.S. S + 4.D = J-14

Postoperatively, the ophthalmoscope revealed atrophic lesions of the choroid in both eyes, near the macula, disseminated in the left and punched out in the right. These were probably responsible for the lens opacities. No floating masses were noted in the vitreous. Examination on October 6, 1925, confirmed these findings. Both eyes showed responsive keyhole pupils, and capsulotomies of a typical V-shaped type.

The retention of the anterior capsule in both eyes demonstrated how soft these lenses really were. The lack of sclerosis in the lens nucleus indicated that it might have been possible to perform a complete discission on each lens, and thus secure a similar result. The lack of iris shadow on the lens seemed to indicate that the lens was more mature than it proved to be. There was no retained cortex, and no postoperative inflammation. In spite of the former hyalitis, the vitreous appeared to be normal in consistence. There was only one abnormal feature—a retarded healing of the wound. In other words, convalescence required four weeks instead of two.

The stripping off of the anterior capsule reminds one of the historical discussion of couching in the seventeenth and eighteenth centuries, where the clear vision immediately following operation was often lost a few days later by a "mysterious clouding" which they failed to understand was the retained capsule rapidly forming an opaque secondary cataract.

The two points in technic that I wish to call attention to are: (1) The insertion of a horizontal mattress suture, double-armed, in parallel lines, one in the cornea and one in the sclera, about 1 mm. apart, the loop hanging down on the temporal side, and the two free ends laid one on the forehead and the other on the cheek. The Graefe knife is then entered through the loop and brought out between the two parallel threads. (2) After iridectomy, the barbed vectis, having a knife-edged tip, a midrib, and barbs along the sides, is entered through the zonule of Zinn above, and passed around the great curvature of the lens, which is drawn out with firm steady pressure. The scleral end of the suture is then pulled taut, and both threads tied in a surgical knot which forms a typical mattress suture. The simplicity and safety of this procedure is most impressive. The patient has been relieved of an incapacity that might have lasted for many years.

*Deceased January 4, 1926.

SYSTEMIC INFECTION FOLLOWING EXPRESSION OF TONSILS

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Other than the objective signs of congestion of the pillars, swelling of the tonsils, or enlarged crypts which plainly show deposits and pus, some form of instrumentation must be resorted to in order to gain an idea of the size, shape, and consistency of the tonsils; also of the presence of debris, pus, or abscess formations in the crypts. For that purpose I use the blunt T-shaped instrument of Hess, ordinarily called a "tonsil expressor."

To gain any knowledge of the above-mentioned conditions, it is necessary to use the expressor with enough pressure partially to dislodge the tonsil from its fossa, or at least to move the tonsil and attached musculature into a position where it may be compressed against the lateral or the posterolateral wall of the pharynx. Unless enough pressure is used to engage the tonsil itself against the cross member of the expressor, nothing has been shown that did not appear before. Simply skimming over the surface of the tonsil accomplishes nothing.

Ordinarily there are no or slight sequellæ from this manipulation. Less often, more severe systemic symptoms will arise, and it is to such sequellæ that the following reports refer more especially.

Case 1. Iritis.—Mr. A., aged 31, doing clerical work, had had several mild attacks of iritis, left eye only, for the period of a year. There was no apparent cause—no history of sore throat, and all laboratory tests were negative. Expression of tonsils for bacteriological examination caused a return of the iritis on the third day. The same procedure four weeks later, caused the same reaction in the eye. Four weeks after this, removal of both tonsils under local anesthesia produced a third attack of iritis, worse than any before. Since this attack, the eye has remained quiet for over three years.

Case 2. Pleurisy.—Mr. W., aged 27, clerk, had always had some throat irritation. He came to me, complaining of a feeling of thickness in the throat, and a desire to cough up phlegm. His throat showed congestion of the pharynx, with many spots of lymphoid tissue scattered over the oropharynx, and ragged tonsils. His temperature was normal. Under treatment, he reported, improved, four days later. The tonsils were expressed for cultures. Two days later, the patient reported a return of dysphagia, and of the cough, together with some soreness of the right chest and a temperature of 99° F. He reported again in three days, much improved, when the tonsils were again expressed. This was followed in 36 hours by a sharp stabbing pain in the right midaxillary line, a temperature of 100° F., and friction sounds. A diagnosis of pleurisy was made by the family physician. On the third day, all symptoms, including fever, had disappeared. Was this an actual invasion by bacteria, or only by toxic material to which the pleura was previously sensitized?

Case 3. Tinnitus Aurium.—Mr. S., aged 35, school teacher, had noted progressive deafness and occasionally tinnitus for two or three years before reporting for examination. He had no throat complaints whatever. The throat appeared normal, with the tonsils small, embedded, and pale. Expression for culture obtained a small amount of watery secretion, the laboratory report on which was: smears, fusiform B, spirochetes, and a diplococcus; culture showed staphylococci and streptococci (nonhemolytic). No throat reaction nor fever followed. However, an increase of the tinnitus for several days was experienced. Expression was repeated in three weeks, with a second increase in the tinnitus. Evidently there was an increased absorption of toxins into the system in this case.

Case 4. Acute Tonsillitis, Acute Adenitis, and Acute Pleurisy with Empyema.—A child, aged 5 years, developed acute bilateral tonsillitis, with high temperature. There were no tonsil manipulations or direct treatment. Cervical adenitis developed in several days, with pus formation. Two weeks later the glands of neck were removed, followed the second week by pleurisy and empyema. The same strain of streptococci was recovered from the chest that was found in the glands of the neck. In this case, the only manipulations were the surgical removal of the glands of the neck, followed by the pleuritic involvement in short order.

That tonsil manipulations are not without some dangers, in view of the above cases, seems evident, and whether the spread is due to an actual forcing into the lymphatics of the tonsil of bacteria alone, or bacteria and their products, or whether the defensive barriers of the peritonsillar lymphatics are broken down by this slight traumatism (expression), or the expressed bacteria and toxins are spread over the pharyngeal mucosa and absorbed via the lymphatics of the pharynx and Waldeyer's ring, remains to be explained.

SARCOMA OF THE ANTRUM

A. SPENCER KAUFMAN, M.D.
PHILADELPHIA, PA.

M. J., white, female, 52 years of age, was referred to me on April 23, 1925, complaining of great loss of weight, swelling and pain over the entire left side of the face, and soreness in the mouth which was worse during mastication.

The following history was obtained: About sixteen months before she had noticed a swelling of the left side of the face in the antral region. This condition gradually became more pronounced, and she consulted an osteopath, eight months later, who made a diagnosis of Bright's disease, but upon having a urinalysis made with negative findings, changed his diagnosis to "some trouble with the circulation," which the patient understood was somewhere in the chest. He also advised the extraction of a tooth. Ten months

after she first noticed the trouble, the upper left bicuspid was extracted, and the condition which up to that time had been painless, became very painful and was made more so by the osteopathic manipulation. For twenty-three years, the patient had had a discharge from both ears.

The entire upper part of the left side of the face was swollen, had a bluish discoloration and was very tender in the left antral region. The left nostril contained a large amount of purulent discharge, and there was bulging of the internal wall of the antrum. The left alveolar process was about three times as thick as normal, and there was a large ulceration involving the posterior part of the hard palate and the adjacent soft palate. Transillumination showed a very dark left antrum. The x-ray report was as follows: "The left antrum is densely opaque, as if filled by some denser body—probably a new growth. There is no apparent evidence of bone destruction. The walls of the antrum seem to be pushed outward on the nasal side of the roof, upward to the floor of the orbit, and the floor of the sinus pushed downward in the palatal region." The heart, lungs and kidneys were negative. A diagnosis of sarcoma of the left maxillary sinus was made and operation advised and consented to.

On April 30th the patient was placed under rectal anesthesia (I should like to lay emphasis upon the value of this form of anesthesia in operations about the face, as there is less danger of inspiration pneumonia, the patient remains under the influence of the anesthetic during the entire procedure, and there is no interference by the anesthetist, as in administration of the inhalation type), an incision was made along the left side of the nose for its entire length, and another along the inferior margin of the orbit. The flap thus formed was retracted, exposing the anterior wall of the antrum, which was removed by chisel and rongeur forceps. The entire cavity was found to be filled with sarcomatous tissue, which was thoroughly removed by curets. After all of this growth (so far as we were able to determine) and the internal wall of the antrum were removed, the cavity was carefully explored, and a large erosion was found in the external wall and another in the posterior wall. The antrum was then filled with gauze, and 100 mg. of radium was nested in the center, with the strings so arranged that the removal could easily be accomplished through the nasal meatus. The incisions were completely closed by Michel clips. At the end of 18 hours, the radium was removed. Convalescence was slow, due to the general condition of the patient, but the wound healed by first intention. The laboratory diagnosis was small, round-cell sarcoma. The alveolar swelling disappeared, and the palate ulceration completely healed in about three weeks. The patient was then turned over to her family physician for injections of Coley's fluid, of which she received eight at three-day intervals. In addition to this, she was given two series of x-ray exposures of four each.

The x-ray report of July 25th (three months after operation) was as follows: "The comparative study of both maxillary bones fails to reveal any x-ray evidence of metastasis or bone destruction." Examination on September 18th showed a normal alveolar process, a large scar on the left side of the hard and soft palates, and a slight watery discharge from the nose. A probe could be readily passed into the left antrum without meeting obstruction, and the patient's general condition was much improved.

Unfortunately, I shall be unable to follow up this interesting case, as three days ago the patient died of double lobar pneumonia. Of course, I did not expect this to be a permanent cure; but, from the progress which she was making, I believe that there would not have been a recurrence for a number of months.

1923 Spruce Street.

WHY CHRONIC GONORRHEA IN THE MALE?*

P. S. PELOUZE, M.D.
PHILADELPHIA, PA.

It is safe to say that with careful treatment and proper coöperation upon the part of the patient, chronic gonorrhea in the male can almost entirely be obliterated as a clinical entity. It probably has less excuse for being than any other common disease, for few are more easily preventable. That it is frequent and that it is almost always preventable makes the subject well worthy of very close scrutiny, for these are the cases that are commonly the agents whereby the disease is spread:

By chronic, are meant those cases wherein the gonococcus persists for longer than six months, for under even fairly good treatment, the male urethra and its adnexa should be entirely freed of the gonococcus well within that time limit. If this statement is true, the fact that there are countless male patients in this country who do harbor the gonococcus for much longer periods must mean that there is something radically wrong with the usual forms of treatment, that the patient's conduct is bad, or that there are many individuals who have but poor resisting powers against this bacterium.

*From the Urological Department of the University of Pennsylvania.

The more closely one studies the clinical course of this disease and the patient's reaction toward it, the less likely is he to attribute the prolonged presence of the germ to the patient's inherent lack of resistance, for with very few exceptions there is good tissue reaction, and even in these it can be greatly encouraged. So true is this that it is probably not the answer to prolonged infection more than once in every hundred cases. For this reason, it is a very fragile thread whereon to hang an alibi.

The writer realizes that, so far, his statements, in the light of the commonly accepted beliefs, will seem to be decidedly radical, but after years of very close observation he feels perfectly safe as to the correctness of every statement that will appear in this discussion. He also feels sure that any one with access to sufficient material who studies the problem with an unbiased mind will thoroughly agree with all that is said.

Let us start the present study of conditions by a brief recital of some of the clinico-pathological phases of gonorrhea in the male, particularly in so far as they relate to speedy cure or chronicity.

We are here dealing with a germ that has found its one natural habitat, which happens to be one of the most delicate mucous membranes in the body. It not only grows upon the surface, but finds its way into the intercellular spaces of the superficial layers of the epithelium, the submucosa, and in some, it penetrates along the trabeculæ of the corpus spongiosum. It does this on free mucosal areas as well as the tiny mucous crypts that stud the urethra. In these crypts it sets up the same type of inflammation as elsewhere, it penetrates their superficial layers of cells and colonizes in their submucosa. The very tiny caliber of the outlet to these many associated mucous channels makes it very easy for the slightest swelling of their mucosa to occlude the lumen.

Now, it is indelibly written in the surgical pathology of practically every mucous surface that free drainage is its best ally in infections. And it is just as clearly written in gonorrhea and almost every other infection of the male urogenital tract that freely draining mucous surfaces will rid themselves very readily of infection. This being the case, one must look to the poorly draining areas as the only ones that can perpetuate this infection.

Time was when the rhinologist spent most of his time mopping up the nasal mucous membrane with a thousand things to cure "nasal catarrh." Today he looks for the infected sinus and makes it drain, knowing that he cannot cure the symptom without removing its real cause.

It long has been time to develop the same attitude toward chronic urethral conditions, for this tract is just as much influenced by these deeper-lying feeders and, like the nasal cavity, it can not be permanently cured unless they are obliterated. In this we have been unduly tardy, for it is just beginning to be remarked in our textbooks upon urology that the treatment of chronic urethral conditions is the removal of the underlying cause. In other words, remove the feeding focus and the urethra will cure itself.

So much for the pathology; but what about the prevention?—for that is really the question under discussion. If one will take the time to inquire of a number of the chronic cases found in every urological dispensary just what was done to them and what they did during the first few months of their attacks of gonorrhea, he will find much food for thought. The uniformity of their answers is decidedly striking, and rather quickly gives the answer to "Why Chronic Gonorrhea?" It is an extremely fertile field for study wherein one can early acquire that knowledge that often comes only after years of professional life as to *what not to do.*

By making the most generous allowances for the influences of the patient's own acts, there will still be found a composite picture that cries aloud for correction, for many of the forms of treatment in general use are not so potent for cure as they are for the production of conditions that lead to chronicity. Among those most frequently brought out are the following:

1. The passage of instruments or solid bodies into the acutely inflamed urethra.
2. The use of injections and irrigations under very high pressure.
3. The use of substances in the urethra that caused great burning and a profound subsequent inflammatory reaction.
4. The administration of large doses of vaccines in early stages of the disease.
5. The entrusting of all of the treatment to the patient without adequate instructions.
6. The use of intravesical irrigations when only the anterior urethra was infected.
7. The use of silver nitrate instillations into the posterior urethra during the early stages of its acute inflammation.
8. The use of astringent injections whereby the disease was rendered latent from the start.
9. Pronouncing the patient safe to indulge in coitus without doing more than looking at his urine to determine cure.
10. The use of prostatic massage so early it could only do damage to the gland.
11. Such strenuous prostatic massage that it caused the patient great pain.
12. Prostatic massage under such conditions and of such a type as to favor extension to the seminal vesicles and epididymi.
13. Local treatments during an acute posterior urethritis.

14. Lack of the knowledge that the prostate becomes infected in every case of posterior urethritis and does not recover spontaneously.

15. The use of too many forms of treatment rather than the adequate use of one.

16. Failure properly to acquaint the patient with the dangers of the disease and the necessity for a strict mode of life.

If now the inquiry is extended to the patients who experienced moderately short attacks of gonorrhea and who present no gross post-gonorrheal lesion, the story will be very different. In this group of cases one soon will be struck with the fact that almost none of them were the victims of too-meddlesome treatment. It will be found that they were well instructed as to the things they should not do, and conscientiously followed these instructions. If they used hand injections, they did it with real gentleness, and the reactions immediately following their use were so slight as to prove that the solutions were not so strong as to be highly irritating. If the physician carried out local treatments they were not of a type that caused great pain, and no instruments were passed into the urethra, or if they were, it was not done until very late in the course of the disease, and it was very gently done.

Among these cases a few will give a history suggesting only anterior urethritis, but by far the greater number will give a clear-cut history of involvement of the posterior urethra also. Of these latter, at least seventy-five per cent will have a chronic follicular prostatitis kept up by secondary invading germs on a soil previously prepared by the gonococcus. The twenty-five per cent who do not have prostatitis will give a history of having moderately gentle prostatic massage over a period of three months or longer after their gonorrhea had apparently subsided. Not over two to five per cent will have had epididymitis, whereas the first-mentioned ones who have had the "too-meddlesome" treatment will show an incidence of this complication ranging well up toward twenty-five per cent.

It would be satisfying if the differences in these groups could be blamed upon the varying degrees of resistance offered by the patients' own tissues. Such a pleasant explanation does not accord in any way with the writer's experiences in this disease, for he has found but a small number of patients who did not quickly develop the tissue response which we call "resistance." Of this number, at least 75% were decided blonds, and most of the others were weak as to hygiene, and even these, properly treated, can be made to develop this resistance so that they will be free of gonococci well within a six-months' period.

Such a comparative study of these two greater groups of cases, with the most generous allowances for the patient's own faults of conduct or treatment, is sure to engender the conviction that there is something wrong with the treatment of the day. Nor is it hard to find what that something is. A careful scrutiny of some of the textbooks upon the treatment of gonorrhea readily reveals *why* much of it is.

As chronic gonorrhea is really a disease of the smaller mucous channels in association with the urethra, and as these smaller structures obviously retain their infection because of their definitely poor drainage and not because of any difference in their mucosa, it is clearly in evidence that no form of treatment that can in any way obstruct their outlets is good treatment. Without a question, the passage of any solid body, whether it be a sound, instillating syringe, or soft catheter, over this most delicate mucosa struggling for existence against this disease is trauma, and as such, it is sure to do more harm than good. It is after such practices that the saddest sequelæ are seen.

In this regard it is easy to write many chapters, but, for brevity, the subject lends itself very well to a number of "don'ts." The study brings out many that are of great importance if these thoroughly preventable misfortunes are to be checked. Let us, then, set down the most important.

1. Don't do anything to devitalize this very delicate mucosa upon which you must rely for cure.

2. Don't injure it by the passage of solid bodies into it until you have reason to feel the gonococcus is gone.

3. Don't use chemicals that cause a greater reaction than the membrane can stand.

4. Don't trust too much treatment to the patient, for he has usually less skill than the most unskillful physicians.

5. Don't inject substances into the posterior urethra when only the anterior is infected.

6. Don't use a hydrostatic (or any other) pressure of more than three feet of water. The inflamed urethra cannot stand it without injury.

7. Don't give large doses of gonococcus vaccine in acute or any other gonococcal infection of the urogenital tract.

8. Don't carry out local treatments to the anterior urethra when the posterior urethra is acutely inflamed, for their possibilities for harm far outweigh the slight good they may do.

9. Don't think the bladder cannot be filled with three feet of water pressure, for it is generally easier to get the cut-off muscle to relax with slight than with great pressure. The latter insults it and throws it into spasm.

10. Don't forget that posterior urethritis means prostatitis, and that too-early prostatic massage means permanent damage to the gland and probably abscess formation.

11. Don't forget that unskillful prostatic massage, heavy lifting, and sexual excitement or indulgence with

a full bladder are the most common determining factors in epididymal involvement.

12. Don't fail to gain your patient's coöperation. Lack of it will render practically useless your most careful treatment.

13. Don't think a clear urine means cure, for the gonococcus loves to colonize and lie dormant. It can be stirred to activity by any type of roughness, and it had better be stirred than have some one else infected.

14. Don't forget that the utmost gentleness and judgment in the treatment of acute gonorrhea will obliterate chronic gonorrhea, and that your best ally is an untraumatized mucous membrane with good drainage.

812 Medical Arts Building.

PUBLIC-HEALTH-EDUCATION PROGRAM

Requests are received for topics for discussion before the profession and the laity, in regard to public-health education. The University of Michigan in a bulletin issued June 13, 1925, publishes a very interesting program, which was arranged by a joint committee, the personnel consisting of members of several state organizations (medical, dental, nursing, public health, social service, etc.).

"The function of the joint committee is to present to the public the fundamental facts of modern scientific medicine for the purpose of building up sound public opinion relative to the questions of public and private health. It is concerned in bringing the truth to the people, not in supporting or attacking any school, sect, or theory of medical practice. It will send out teachers, not advocates."

For the benefit of any of our readers interested in this altruistic endeavor, who desire topics for similar talks before medical and lay audiences, the following subjects are reprinted:

Abdominal Pain and its Relief by Surgery.
Bringing the Crippled Child into Its Rightful Heritage.
Prenatal Care, a Factor in Reducing Infant Mortality.
The Responsibilities of the Nurse in Child-Welfare Work.
Development and Care of Children's Mouths.
What Germs Do To Us and For Us.
Facts and Fancies About Tuberculosis.
Communicable Diseases Among School Children.
Child Hygiene.
What Constitutes Prenatal Care.
Some Fundamental Rights of Childhood.
What is Good Milk?
The Health of the School Child.
Diet in Relation to Health.
What Mouth Infection May Do to Us.
Typhoid Fever, and How to Avoid it.
The Ounce of Prevention.
Prevention of Contagious Diseases.
Good Teeth and Good Health.
Significance of Blood-Pressure Changes.
Public-Health Nursing in Rural Communities.
Preventive Dentistry.
Pyorrhea: Can it be Cured?
What Modern Science Tells Us About Our Teeth.
The Relation of Teeth to Health.
A Sound Mind in a Sound Body.
The Meaning of Heredity.
Insects in Relation to Disease.
Safety of Surgical Operations.
Why Have Smallpox in Pennsylvania?
Help for the Handicapped.
Some of the Triumphs of Modern Surgery.
Development and Use of the X-Ray in Medicine and Surgery.
How to Keep Well.
The History and Development of Visiting Nursing.
The Public-Health Nurse in the Home: (a) As a Nurse; (b) As a Friend; (c) As an Americanizing Agent.
The Health of the School Child.
Vital Statistics in Their Relation to Public Health.
Public Health as a Personal Problem.
The Heart and its Handicaps.
Epilepsy, a Social Problem.
What Modern Scientific Medicine Has Done for Us.
Goiter as a Community Problem.
The Importance of Periodic Medical Examinations.
What the Modern Mother Should Know and Do.
Our Eyes, and How to Care for Them.
The Mad-Dog Menace. The Prevention and Cure of Rabies.
Overweight and Underweight.
The Rôle of Play and Recreation in the Life of a Child.
Important Factors in Prolonging Life.
1. How to Keep Well.
   (a) Lecture for Adults on Preventable Diseases.
   (b) Special Lecture for Children.
2. The Standard of the Double Red Cross.
   (a) Lecture for Adults on Tuberculosis.
   (b) Special Lecture for Children.
3. Everyday First Aid.
   (a) General Lecture for Mixed Audience.
   (b) Lecture for High Schools and Boy Scouts.
   (c) Lecture for Women and the Home.
   (d) Lecture for Children.
4. Goiter, and What to Do About it.

Public Health from the Layman's Viewpoint.
The Advantages of Early Diagnosis and Treatment.
The Mouth as the Doorway to Health.
Health Habits for Children.
The Undernourished Child.
Tuberculosis and What to Do About It.
What the Physician and Patient may Reasonably Expect from Each Other.
How Nose and Throat Infections Produce Diseases of the Body.
What is Good Water?
What Military Surgery Has Done for the Civilian.
Sex Education of Children.
Crime Prevention as Related to Public Health.
Common Sense in Sickness.
How to Rest Properly.
Problems that Confront the Health Officer of the Small Town or Rural Community.
Health Problems of the High-School Boy.
Hearing, and How to Conserve it.
Some Important Facts about Cancer.
Common Misconceptions of Medical Facts.
Common Errors of Health.
Adolescence, the Flower Time of Life. This lecture may be adapted as requested, for (a) boys only, (b) girls only, (c) mixed audience.
Garbage Disposal.
Dentistry as a Public-Health Service.
The Need of Dental Service in Public Schools.
Organization of Public-Health Nursing.
The Value of a Public-Health Nursing Service.
Coöperation in Public-Health Nursing.
How to Make Motherhood Safer and Easier for Mother and Child.
Backs.
Eyestrain, Its Symptoms, Causes, and Treatment.
Defective Vision and its Bearing upon the Economic Phases of Industry.
Will an Apple a Day Keep the Doctor Away?
Man's Right to a Long Life.
Safeguarding the Development of Your Daughter.
Venereal-Disease Problems.
The Critical Age of Forty.
Abdominal Emergencies.
The Need of County Public Nurses.
The Tuberculosis Sanitorium: What it is and How to Get it.
The Benefits of a Healthy Skin.
Your Daughter's Mother, and Her Medical Responsibilities.
How Do You Know You Are Not Well?
Normal Childbearing (For Women).
Women's Health from 15 to 50 (For Women).
The Business Man's Health.
The City Hospital and Its Relation to the Community.
The Ductless Glands.
Insulin in the Modern Treatment of Diabetes.
Keeping Well in a Big City.
The Control of Cancer.
Cancer Nostrums.
The Health of the Industrial Girl.
Street Accidents as the Doctor Sees Them.
The Story of a Stomach Ulcer.
Surgical Nursing in the Industries.
Modern Medicine and Miracles.

SMALLPOX VACCINATION AS CARRIED OUT AT LEHIGH UNIVERSITY

That there are objections by the public to vaccination today may be attributed, to a large extent, to an apparently logical though selfish point of view. This may be summarized somewhat in the question, "Why should I undergo the inconvenience of vaccination when there is no smallpox around?"

The fact remains, however, that the average individual dreads vaccination, and, as he heretofore has not been entitled to a certificate unless he had a "take," similar to that following a first vaccination, he would not willingly undergo the operation.

In the *Public Health Reports* of September 21, 1923, Dr. S. B. Grubbs, surgeon, United States Public Health Service, at the New York Quarantine Station, described a method of vaccination and certification which would

"encourage vaccination, not only to produce immunity but also to measure it, if present, and then to give those who submit, certificates that mean something and that will insure the owners against delay from smallpox quarantine, regardless of exposure to disease."

The idea seemed so excellent to the executives at Lehigh University that they thought of applying the method in vaccinating the student body last fall, with the idea of coöperating in securing the universal adoption of the procedure. The vaccinations were made under the authority of Dr. R. C. Bull, Director of the Lehigh University Student Health Service, and it was only through Dr. Bull's hearty coöperation that this systematic immunization was possible.

Exactly the same technic was followed in each case. The skin of the upper arm was cleansed by rubbing with a swab of cotton saturated with alcohol. This was allowed to dry. With his left hand the operator grasped, from below, the arm of the patient in the region of the insertion of the deltoid muscle. The skin was stretched, and three short, parallel scratches were made about three quarters of an inch apart. The scratches penetrated the epidermis, but pains were taken not to draw blood. Care was taken not to include any scar tissue from previous vaccinations in the scratched area. The virus was expelled from the tube on the two outside scratches and rubbed in thoroughly. The middle scratch was not inoculated, but served as a control. It received the same degree of trauma as the two inoculated scratches.

While each man was being vaccinated, a card was made out giving the serial or case number, his name, class in the University, the date of last successful vaccination, the date of vaccination, operator, manufacturer, lot number, and expiration date of the vaccine used. The man was then instructed to return for observation in 24 hours, in 48 hours, and each day thereafter until a definite record was obtained of what happened in each individual case. Readings were made in each case as often as the men returned, and the reactions noted on their cards. Tables are given showing examples of reaction; relation of reaction to virus used; proportion of observed reactions with different viruses; relation of vaccination to time elapsed since last successful vaccination; and relation of reaction to degree or character of scars observed of former vaccinations.

In publishing the results of the vaccinations at Lehigh, it is with the idea that the tables are far more important than the comments. The education of the public in the desirability of vaccination is of greater value to the public health than law enactments. The method employed by the United States Public Health Service should be adopted universally, and with the adoption it is believed that this means of protection against smallpox will be welcomed rather than dreaded.

Under this plan practically every one who is vaccinated is issued a certificate. This certificate will show when he was last vaccinated and the type of reaction, whether immune, vaccinoid, or vaccinia. Under ordinary circumstances that is sufficient. If an epidemic of smallpox should break out in a community, it would be the duty of the local health department to decide on its severity, and whether or not any of these classes should be revaccinated.

This latter point can only be arrived at scientifically by the universal adoption of standard technic and certification, and the compilation of sufficient data thus obtained. The article is replete with valuable data, and anyone desiring a copy may secure it from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents per copy.—Stanley Thomas, *Public Health Reports,* January 8, 1926.

DEAN INGE ON THE RELATION BETWEEN SCIENCE AND RELIGION TODAY

American biologists have been none too active in resisting the attacks of the so-called "fundamentalists." The most that is usually claimed by them in their own defense is that there is no necessary hostility between science and religion. It is then all the more refreshing to find no less a churchman than the Very Reverend W. R. Inge, Dean of St. Paul's, London, proclaiming his belief that "in science has come the chief revelation of the will and purposes of God that has been made to our generation." The following brief quotations will serve to indicate Dean Inge's position. They are taken from his article "The Social Message of the Modern Church" in the January *Yale Review,* in which article interested scientists will find much for reflection and inspiration.

I believe that in science has come the chief revelation of the will and purposes of God that has been made to our generation. I believe that it is more important for the Christian preacher to understand this new revelation, and to apply it to his ethical teaching, than to cultivate a sympathy with social revolution and the "demands" of manual labor. Perhaps the great struggle of the future will be between science and sentimentalism, and it is by no means certain that the right side will win.....There are many temptations to the churches to side with the anti-scientific forces. There has been and still is a conflict between traditional theology and natural science.....Science and philosophy (even religion) are willing to learn from each other, and a *rapprochement* is in sight. But the so-called fundamentalists, or traditionalists, still dream of routing the enemy, and are willing to use the most dubious allies for the purpose. It is, of course, they who are the real materialists, since they cannot conceive of a religion which is not buttressed by miracle and special interventions. The more that our clergy can study the philosophy of religion, the better it will be for them and their hearers. We have to come to terms with the scientific view of the world. There is no reason why this old feud should be perpetual. Christ never wished to oblige us to outrage our scientific conscience as a condition of being His disciples. Our traditionalists bind heavy burdens, grievous to be borne, and lay them on men's shoulders, burdens which are no part of the burden of the Cross, no part of the light and easy yoke which Christ told us to take upon us, but which on the contrary are a terrible impediment to thousands who wish to be Christ's followers, but cannot swear black to be white to please the authorities.

* * * *

I am afraid it is not so much any particular results as the whole scientific way of approaching questions, which is hateful to traditionalism. For this reason, I beg those of my readers who are religious teachers to try to keep an open mind, and at least to recognize that men of science are sincerely anxious to make their contribution to the problems of civilizations, that they have a strong case, and that their motives are as pure as your own.

* * * *

I believe therefore that in so far as we connect the kingdom of God with the progress of the human race, we who are Christian ministers ought to give much more attention than we have hitherto done to the discoveries of modern science, and to the scientific way of looking at things.....I also hold very strongly that a reconciliation between religion, science and humanism is overdue.—Neil E. Stevens, Bureau of Plant Industry, Washington, D. C., in *Science,* official organ of the American Association for the Advancement of Science, Vol. lxiii, No. 1628.

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EDITORIALS

MATERNITY AND INFANCY WORK IN PENNSYLVANIA

Legislation for maternity and infancy work is again before Congress. The bills covering this subject have so far received little attention because of the outstanding congressional subjects of rubber and taxes. Mothers and babies, upon whom the great burden falls for the continuance of human life, somehow do not create the same amount of legislative enthusiasm as do the more material phases of existence. The measures referred to are those relating to the extension of the Sheppard-Towner appropriation for maternity and infancy work.

Since 1922 Pennsylvania has been receiving a Federal appropriation of approximately $69,000, as provided by the Sheppard-Towner Bill passed by the Federal Congress in November, 1921. Forty-three other states and Hawaii are now recipients of this stipend. All but $5,000 of the appropriation had to be matched with State funds. This combined sum has been used for the furthering of the protection of maternity and infancy.

Miss Grace Abbott, Chief of the Children's Bureau, and Chairman of the Federal Advisory Committee in charge of the administration of the fund, says in her report for 1925 that there were 290,590 children given complete physical examinations in that fiscal year. More than 10,800 child-health conferences were held, and 3,581 prenatal conferences. These latter were attended by approximately 36,000 women. There were established during the year 622 new child-health centers, and 57 prenatal clinics.

Miss Abbott continues: "The United States Government is expending at the present time less than $1,000,000 a year in subsidies to the states for the promotion of a health program for mothers and babies. Great Britain is expending nearly five times that amount in 'grants in aid' to local communities for maternity and child health enabling the 'health visitors' to reach an estimated 89 per cent of the children born in a year in England and Wales, and 13 per cent of the expectant mothers.

"With our larger population, greater distances, and higher costs for both service and material, we are obviously able to do much less for mothers and babies than Great Britain. The provisional figures for 1924 of the vital-statistics division of the Bureau of the Census indicate a substantial drop in the infant death rate for both urban and rural communities in the United States birth-registration area; but even with this improvement, the infant death rate in the United States is higher than in Australia, the Netherlands, Norway, Sweden, and the Irish Free State, and no state in the United States birth-registration area has so low a rate as New Zealand. It is quite evident, therefore, that the United States can not afford to slacken its interest or reduce in any way the intelligent expenditure of funds to lower the death rate among babies."

Pennsylvania has made a creditable record in its reduction of infant mortality, which is now regarded as a suitable index of the efficacy of the direct measures for protection of infant life, supplemented by the general activities tending to make all community life better.

In 1906, when the State entered the birth registration area, the infant death rate was 167 per thousand living births. In 1924, the rate was 78 per thousand. The provisional rate for 1925 is 81, an increase of three points following upon the three disastrous months of August, September, and October, 1925, when gastro-intestinal diseases carried off 52% more children under two years of age than in the correspond-

ing months of the previous year. The general downward trend of the percentage gain in life saving, however, during the period from 1906 to 1926 has been encouraging, but not a cause for complacence.

The measures now being used to promote the welfare of babies and mothers by the Department of Health are supplementary to general methods and of great variety, pushing all living up to a higher plane. In working for good government, promotion of human well-being quickly reflects on infancy, whether such activities be better roads, better housing, better wages, safe water, safe milk, or better garbage disposal. Specific undertakings—intensive, educational, and preventive in character—are due the mothers and babies, in order to hasten the day of no unnecessary deaths, of speeding the betterment of those who just did not die, and for such work the money received from the Federal Government has been used.

There is not a great diversity in methods of conducting baby-saving work in the different states. Certain forms of procedure have been generally accepted after adequate trial as getting us farthest in the least time. Such, for example, are the conducting of child-health centers, or the holding of conferences where complete standardized physical examinations are given to infants and young children, and where, parallel to this, mothers are taught by physicians and nurses the methods of child care which experience has proved will produce "better babies."

Prenatal care is now widely accepted as a supreme right of the mother and child for nine months preceding birth, this under a doctor's supervision and supplemented by the public-health nurse's services.

Midwives in nine counties in the coal regions of Pennsylvania are now being supervised, controlled, and instructed by the aid of Sheppard-Towner funds.

Quantities of literature on the care of children, the hygiene of pregnancy, and dental and mental hygiene are distributed free through the State by public-health nurses, clinics, and private organizations, and from the offices of many private practitioners.

Antidiphtheria work, special "campaigns," "health days" and "weeks," and the engineering of exhibits, have supplemented the other educational undertakings, and made possible, as well, the employment of a far larger public-health nursing force than could have been supported without the extra fund.

The bills now before Congress for an extension of the original five-year period should have the full support of the medical profession and also of the laity of the Commonwealth.

SYPHILIS NOT DISSEMINATED BY VACCINATION

On Wednesday, December 30, 1925, there appeared in the *New York Evening Graphic* an editorial signed by Bernarr Macfadden, entitled "Putrid Pus for Vaccination." In this editorial, the writer states that Professor Crookshank, who was one of the world's greatest bacteriologists, gave before the British Royal Commission some years ago the following definition of vaccination: "Vaccination is the inoculation of a healthy person with putrid pus taken from a festering sore on a diseased animal and of a distinctly syphilitic character." The editorial further states that the International Antivaccination League, Inc., of New York City, engages men to carry signs on the street printed with this definition, and is sending out cards by the hundreds with this same definition.

What are the facts with regard to this statement credited to Crookshank? Professor Crookshank was opposed to vaccination, and testified at considerable length before the British Royal Commission. First, the testimony was given in 1890, thirty-six years ago; secondly, the bovine species cannot be inoculated with syphilis, and humanized virus is no longer used; and thirdly, Crookshank never made the statement attributed to him, nor any statement conveying the same thought. The minutes of the Royal Commission may be searched in vain for any such expression. In fact, in a letter sent to this country on January 25, 1926, Dr. Crookshank repudiates the statement attributed to him in the editorial in question.

What has doubtless happened is that the opponents of vaccination, in reading over Crookshank's testimony, have gathered together certain fragments of his testimony which they have either inadvertently or purposely garbled and distorted. Crookshank testified on a certain analogy between horsepox and horse syphilis, but he well knew and freely admitted that there was no relationship between horse syphilis (properly called la dourine) and human syphilis. Dourine is caused by the *Trypanosoma equiperdum* and not by a spirochete. Human syphilis cannot be given to horses, nor dourine to human beings.

Of course, one could not expect the lay antivaccinationist or a physical instructor and publisher to know this. But the latter does assume great medical knowledge when he says that "the

medical profession is syphilizing the race," and that "vaccination is largely responsible for the deplorable state of our young manhood as revealed by the selective draft." The writer of the editorial may influence some unintelligent people and persuade them not to be vaccinated, but this may not be an unmixed evil, as smallpox might then take them off, and thus, from a genetic standpoint, improve the race. Of course, his idle vaporings will have no effect on sensible people and will only serve to discredit himself.

The value of vaccination as a protective measure against smallpox is proved by over a hundred years of accumulated evidence. On perhaps no medical doctrine is there a greater unanimity of favorable opinion. All medical practitioners of eminence and recognized medical scientists recommend it as a life-saving measure. The writer of this unique editorial is to be pitied, for there is a strong probability that he believes what he writes.

MEDICAL LEGISLATION IN NEW YORK

In February a bill was introduced in the New York State Legislature to amend the public-health law in relation to the practice of oralogy. The practice of oralogy is thus defined: "A person practices oralogy within the meaning of the Act who holds himself out as being able to prevent, diagnose, treat, or eliminate diseased conditions." To be approved as a school that will give the prescribed course in oralogy, the course shall consist of "One year, of 1,050 hours of 60 minutes each, and shall include anatomy, histology, hygiene, sanitation, biology, bacteriology of nose, throat and mouth, biological chemistry, diet, diagnosis, x-ray diagnosis and therapeutics, symptomatology, psychology, physical education and spinal analysis." Applicants for admission to the course in oralogy must previously have qualified either as physicians or dentists. It is interesting to note the inclusion of spinal analysis among the subjects. Is this an Ethiopian in the wood pile?

The Act further states that "any one licensed under this Act shall entitle the holder thereof to the use of the degree of D.P.H."

On the surface it would appear that if such a law is passed, physicians will be entitled to the degree of D.P.H. after pursuing only a one-year course, and a most insufficient one; and that dentists will have a very short route to the practice of medicine and the D.P.H. degree.

There are several other bills on medical legislation introduced in the present session of the New York State Legislature. One would change the definition of the practice of medicine to mean the dispensing of drugs only; another would add to the definition of the practice of medicine a phrase making it include x-ray treatment; another would limit the right to administer anesthetics to physicians only; and another would license firms manufacturing surgical splints not only to manufacture but to apply the splints to the patients, without the diagnosis or recommendation of a physician.

THE HOSPITALIZATION OF THE ALMSHOUSE

It is, perhaps, a fortunate circumstance that the present Secretary of Welfare is (as was her predecessor) a physician, who therefore considers the social problems presented in the fields of dependency, criminality, and mental disease and defect as related to the everyday problems of the physician and public-health officer.

The recent appearance of *Bulletin 21* of the State Department of Welfare represents an exhaustive study of poor relief in Pennsylvania undertaken by Emil Frankel, Statistician to the Department, under direction of Dr. Ellen C. Potter, Secretary of Welfare.

Hospitalization of the almshouse is one of the important recommendations contained therein.

We note with approval that a growing number of Pennsylvania's almshouses are providing that medical and nursing care essential to the proper handling of the inmates they now find within their walls—the very old and infirm, the chronically ill, and the feebleminded.

Showing how urgent the hospitalization of the almshouse is, this bulletin reveals that thirty per cent of the present-day inmates whose cases were studied required careful diagnosis, and active, intensive medical care over a long period, and twenty-seven per cent required good nursing.

We deplore the fact brought out by the study that "in most of our almshouses (which number 85) the sick and the diseased occupy the same quarters with other inmates, much to the discomfort of both. It often happens in almshouses in which little or no nursing care is provided that patients take to their beds, and virtually no medical attention is given them. Sometimes the sick are left to the care of other inmates, who themselves are unfit physically and mentally to do such nursing work, with the result that the patients are neglected and occasionally mistreated."

The Welfare Department advocates a definite classification of inmates as a basis for care and treatment. It makes a strong plea for adequate

medical and nursing equipment and personnel, which we endorse. And we heartily concur with its dictum "that there is no almshouse or county home in our State so small that it does not need the services of a person who has had some nurse's training, and in the larger institutions the employment of an efficiently trained, registered, graduate nurse is imperative."

The hospitalization of the almshouse is a problem directly concerning the medical profession. The individual physician could render no finer service than to study the local almshouse situation and urge changes that will make for enlightened treatment of the county wards and a real professional contribution, as well, to the diagnosis, prevention, and treatment of chronic disease.

THE WAR TO SAVE HUMAN LIFE

The following extracts from the *Philadelphia Inquirer* are of interest to the medical reader:

Secretary Hoover's report on the national death rate for 1924, just announced, shows a reduction from 1923.....Discounting a minute yearly fluctuation, the general trend over an extended period seems to be in the right direction. Better living conditions with improved sanitation and the spread of hygienic education may probably share with the advance in medical research the credit for a healthier country.....

One feature of the report, however, is annoying. Suicides and murders each increased nearly seven per cent in the statistical year, and the death from automobile accidents increased more than seven per cent .....In other words, while society is actually making headway in lengthening life, individuals are increasingly thwarting that objective by destroying life. This seems to be a pretty effective answer to socialists who insist that society fails in its debt to the individual. The truth is, for the moment at least, that the individual is too largely repudiating his debt to society. For it is society that fosters religion and education and other influences in behalf of virtue. It is the individual who is delinquent.

It is the individual, too, who is delinquent in not having a periodic health examination not only of himself, but of all for whom he has a direct responsibility. It is the individual general practitioner who is delinquent if he is not prepared to conduct an efficient physical examination; to appreciate pathology, etc., that is present, and what is more to the point, to recognize preclinical manifestations before they become symptomatic; and, to advise the individual properly as to the procedures to follow to overcome existing conditions, to offset ill health or impending danger, and to give sane and sound advice to his clientele.

The medical profession is delinquent because its members generally have not interested the public in the necessity for periodic health examinations, because our confreres seem to be imbued with the idea that their services are needed only when people are admittedly sick. The medical profession is delinquent because it does not grasp the importance of determining oncoming trouble which may be nipped in the bud or limited in its deleterious effects. It is amusing, in reading the chart of a hospital patient who has had a previous admission to the same institution, to see under "personal history," etc., and more especially on the sheet devoted to physical examination, that the intern has written across the page "See previous chart." The previous admission may have been a few weeks to several months or more. Yet in the meantime, abnormalities may have occurred, or previous undetected conditions may now be symptom producing. The intern and the members of the staff are delinquent, because they do not appreciate the necessity for a thorough and comprehensive physical examination upon each admission.

WHEN CHILDREN READ

The State of California has been conducting in its schools a series of tests on the subject of children's reading. According to those who have observed the experiment, its results have proved highly illuminating and should serve as a valuable contribution to the "new knowledge" in child study and training. With respect to the amount of reading done by the average child, long a controversial point in the discussions of educators, especially interesting conclusions were reached. This particular test consisted of asking 808 "unselected" school children between the ages of six and sixteen, in three small California cities, to keep a reading record. The adjective "unselected" indicates that no discrimination was made in the test between the children of more than average mentality and those of less than average. It appears to be agreed that the conclusions given below are representative of any fairly well-to-do community where good libraries are the rule rather than the exception. The findings in the 808 cases mentioned are summarized as follows:

Age of child	*Number of cases*	*Average number of books per month*
6 to 8 years	32	0
8 to 10 years	163	1.5
10 to 12 years	286	2
12 to 14 years	230	3
14 to 16 years	97	2.5

The evidence here presented to the effect that more reading is done between the ages of 12 and 14 than in the two or three years following has, it is said, caused surprise to some of those in touch with the California experiments. Many

authorities, however, contend that this is a conclusion quite to be expected. Professor Lewis M. Therman, of Leland Stanford University, and Margaret Lima, psychologist of the Minnesota State Board of Control, in an article on "Children's Reading," are among those who express this view. Of this period in the mental life of the child they write: "The twelfth or the thirteenth year usually marks the beginning of what is commonly called the 'reading craze.' Never again in this life does the average individual read as many books in one year as he reads at 12 or 13. Boys generally reach this maximum amount at 13, but girls, who mature more rapidly than boys, usually read their greatest number of books at 12. Fortunate indeed are the parents who have succeeded by this time in developing in their child a taste for good literature."

WHEN IS A MAN DRUNK?

"When is a man drunk?" is a question it would seem often hard to decide. In this country, the query frequently is raised by police officials in the arrest of individuals who are charged with the offense of driving an automobile while intoxicated, and at times for other reasons. What are the best tests to carry out in making this observation? It would seem that some times, as with the weather, all signs fail.

A physician and several bystanders carefully observed for fifteen minutes a traffic officer on duty at an intersecting street corner. All agreed the officer was drunk. The physician advised the traffic officer at the next intersecting street of his suspicions, and received the reply that it explained why the traffic was in chaos. The second officer further stated that the officer in question had been reported on three different occasions for drunkenness. The second officer, on investigation being satisfied the report was correct, hailed a passing automobile to take his brother officer to police headquarters. It required the combined efforts of three men to get the officer in the car. It was subsequently learned that the police surgeon who made the examination within a very short time, reported that "the officer was strictly sober." May not politics have made the diagnosis?

In another recent instance in the same city, a negro man was arrested on the charge of driving a truck while intoxicated. The case came to jury trial. The culprit admitted that he did stagger when he walked, but attributed it to flat feet contracted in overseas service. He further acknowledged the truth of the statement that there was an odor of alcohol at the time on his breath, and that he had taken two glasses of wine about one hour before he was arrested, but insisted that he was not drunk. After one hour's deliberation by the jury, he was acquitted. This brings to mind the statement once made by an eminent lawyer, during a conversation on jury trials, to the effect, "that if he was innocent of a charge, he would prefer trial by judges sitting in bank, but if he was guilty, he would prefer trial by jury."

The Philadelphia *Public Ledger* in discussing this topic "When is a man drunk?" states that the question is causing almost as much comment in England now as was raised in the United States when officials attempted to define "what is whiskey?" Things have reached such a stage and so many cases of wrongful arrest have occurred that finally the British Medical Association has stepped in with the formation of a committee of eighteen—doctors, police surgeons, and magistrates—whose duty it will be to settle upon definite tests. The increase in motoring and the large number of men still affected with "nerves" as a result of the war is largely responsible for the controversy.

Most of the methods of ascertaining whether a person is drunk are very antiquated, and vary in different police divisions. One is touching the tip of the nose with one finger with the eyes closed. Other tests include reading a newspaper, telling the time, pronouncing such sentences as "The British artillery extinguished the conflagration," and walking a chalk line. None of these methods takes into consideration the state of nerves of the victim, in the opinion of many physicians, and the result often leads to unfair conviction, or at least detention for a time.

We shall await with interest the report of the British Medical Association, which no doubt will contain a revision of its tongue twisters.

MORTALITY IN OBSTETRICS

One of the insurance companies in a recent bulletin states that "during the last fourteen years, in the field of maternal mortality, it is remarkable to note the very slight improvement that has occurred in contrast with the very marked betterment that the policyholders have experienced with respect to so many other diseases." According to their statistics "the importance of maternal conditions is emphasized by the fact that they rank, among white women aged fifteen to forty-four years, second to tuberculosis among the causes of death." This study is based on a review of nearly 400,000 white women policyholders. "The 'accidents of pregnancy' (abortion, miscarriages, ectopic gestation, etc.) have shown a slightly upward trend; and

the 'accidents of labor' (malpresentation, difficult labor, cesarean section, and other operative interference), a more pronounced rising tendency." There is to be noted a marked decline in puerperal sepsis, and an improvement in the death rate from eclampsia, evidently due to prenatal care, especially on the part of the visiting-nurse service of the company.

A deal of attention has been devoted during the past decade to child welfare, and a marked decrease in infant mortality has resulted; but these statistics indicate that an extension of this care to the mothers is badly needed. The establishment of prenatal clinics should be encouraged, and support lent to propaganda urging every expectant mother to place herself under medical supervision early. Further study aiming at methods of reducing this appalling human waste should be immediately started by all obstetrical centers.

HOSPITALS FOR PERSONS OF MODERATE MEANS

A survey of the cost of hospitalization shows that an increasingly large number of persons of moderate means are finding it more difficult to secure the advantages of hospital care on account of the expense. As a result, an undue number of the middle classes, the backbone of the nation, who want to pay the medical attendant and the hospital, are unable to pay both, therefore frequently are denied private-room privileges. Those who can pay for the cheaper rooms and pay the physician in attendance are fortunate. The many who cannot, must take semiprivate reservations, two or more in a room; and others again must perforce be admitted to the public wards, where, of course, even though the full ward rate is paid, the physician in attendance is not permitted to render a bill for services. Not many years ago, a distinguished surgeon, in discussing the cost of hospitalization, said: "The rich man can buy anything in a hospital; the bum is admitted to the public wards free, and receives the best care and attention the recent advances in medicine afford; but, what about that great middle class, the backbone of the American people, who desire in their honesty to pay their medical and surgical attendants, and who are denied the hospital privileges that might be theirs through their financial inability to do both?"

Our plea to hospital administrators is to evolve some plan whereby service may be given to the great middle classes, and at the same time permit them to pay the attending physician or surgeon.

THE PROBLEM CHILD

Too much cannot be said nor done to attempt to correct conditions that tend to weaken parental authority and destroy the influence of the home. Kindly advice upon the part of the attending physician frequently will be far-reaching in solving this problem in many homes. The conditions under which children are being raised has its unfortunate influence, with disastrous results. Among these may be mentioned the daily life in crowded apartments, the numbers of families in one house, the number of children occupying one room, theatres, moving-picture houses, and cabarets. The latter attractions play an important rôle in luring the child away from the wholesome life of the parental roof. There is no discounting the fact that juvenile crime abounds. Much has been accomplished in behavior problems, and as a result of the good showing in this regard, we should center our activities upon the care and cure of the maladjusted child. "Prevention is easier than cure, and may be applied to children who, though they might never become criminals or insane, have clearly marked mental attitudes and habits which, if allowed to become fixed, will render them unnecessarily unhappy and ineffective in adult life."

Permanent clinics have already been established in some of the cities of our country where funds were obtained to carry on this great altruistic work. Similar clinics should be established in all cities that show a disposition to coöperate with efficiency. Experience shows that one third to one half of the children are brought to these clinics by their parents. Naturally, this work is in its experimental stage, and every effort should be made to accomplish its expansion. "For the old-fashioned home we have as yet no adequate substitute, scarcely the promise of one. Its decay as a source of character and moral tone presents a problem of vast import to the future of our civilization. Yet modern life, while it is destroying so much of value, is tending to give us in its place new sources of health, both physical and ethical."

BOOK REVIEWS AS A GUIDE TO THE PURCHASER

Medical books are numerous and expensive, perhaps too numerous and perhaps too expensive, certainly so if after purchase the volume proves worthless. How shall the physician decide what books to add to his library year by year? Add he must, for read he must to keep abreast of the times, but how shall he select from the many?

He cannot use the publisher's advertisements as a guide, for in these each work is the best, the most up-to-date, and the most authoritative; each and all must be bought at once to avoid professional stagnation and burial. Unfortunately, he cannot trust to the eminence of the author's name; often a major part of the book will prove to be written by lesser lights. The best guide should be the book reviews published today in many medical journals, not merely the laudatory sentences culled from these by the publisher and quoted in the advertisement, but the whole review giving both praise and blame truthfully and sincerely.

This places a great responsibility on those who select the reviewers of books, and also on those to whom the reviewing is entrusted. It is no unimportant function, and should be taken far more seriously than it sometimes is at present. It should not be a question of boosting a friend and slamming an enemy, nor should the review merely echo the publisher's praise or the author's preface. The book must be read, or at least used as those who buy it will intend to use it. The review should be written from that point of view. Honesty is required, but not bravery, for usually anonymity guards the reviewer. Let the reviewer remember not only that upon his judgment and advice many of his fellow practitioners will spend money, but also that in his small way he can help to raise the standards of excellence in medical practice and medical literature.

In order that reviews of books published in this journal may be of value and a guide to the readers in purchasing books, the thoughts expressed in this editorial are instilled into the consciences of our book-review staff.

JOTS AND TITTLES

Scientific News

(a) A specific serum for the cure of erysipelas, produced from a single type of streptococcus erysipelatis, has been announced by Konrad E. Birkhaug, of the University of Rochester, who claims that its injection during the first three days of the disease will bring results in eighteen hours.

(b) Dr. Mitchell, senior medical officer of the city cancer hospital at Liverpool, England, recently stated that a noted but unnamed scientist claims to have devised an apparatus which will detect the presence of cancer in the patient's blood during its early stages. He further claims that by tests made six months after operation, it is possible to determine whether all traces of the disease have been removed.

(c) Hospitals in Germany are now feeding babies six months old with extract of beef, kidney, and other meats instead of milk, and claim that larger babies are the result.

(d) Chlorinated lime, used extensively as a germicide, deodorant, and bleaching agent, according to the U. S. Department of Agriculture loses its strength with age, eventually becoming ineffective as a germicide. Further information may be obtained on application to the Department.

Organization Activities

(a) A report on a mental-health survey of Staten Island by the National Committee for Mental Hygiene shows that "one in every 73 children passed through the Children's Court of Staten Island during the period of a year; one in every 167 persons served time in the county jail; one out of every 332 residents of the borough was a patient in a state hospital for mental diseases; one in every 10 school children was found to need the help of a mental-health service for some form of mental, nervous, physical, emotional, personality, educational, or social difficulty." Abnormal mental conditions were found among two thirds of the 44 jail prisoners studied, and most of the group of 100 juvenile delinquents exhibited more or less serious mental, physical, or personality defects. Altogether, about 60 per cent of the school children were found to be mentally handicapped in greater or less degree. The economic significance of these findings is shown by the fact that there are approximately 400 adult residents of Staten Island in state hospitals with mental diseases that began to develop, for the most part, when they were children, and when they could have been largely prevented. Each patient is costing about $400 a year to maintain, to say nothing of the loss from unproductiveness. The Committee recommends periodic medical examinations of all children attending the public schools; systematic mental studies of problem children; establishment of a probationary school for special behavior cases; providing of a mental ward in the general hospital for the prompt care and treatment of acute cases; and a psychiatric social service for exceptional children. The best mechanism for providing such facilities, the Committee holds, is the mental-hygiene clinic, in which the psychiatrist, the psychologist, and the psychiatric social worker join in making thorough medical, mental, emotional, educational, and social study, diagnosis, and treatment. "Crime and delinquency are largely mental-hygiene problems, and require the attention of the mental clinic just as mental and nervous disorders do. .....The control and prevention of crime is a matter of right training of the individual and the wise managements of the individual's personal problems..... The crimes that come so shockingly to the attention of the community represent in reality only the small part of the iceberg of social problems that is visible above the surface of community waters.....Dependency, too, and other forms of social inadequacy are frequently the result of poor social adjustment, even where there is no clear-cut mental disease or defect or organic deficiency, and the power to adjust satisfactorily to social conditions and to make the most of the opportunities that are available depends on the personality development that takes place during childhood and adolescence." This report is a most important contribution, and would apply equally well to other communities than that studied.

(b) Called by the American Medical Association, at the request of Mrs. William Brown Meloney, editor of the *Delineator,* an Adult Weight Conference at the Academy of Medicine in New York was participated in by twenty-five of the country's leading scientists, physicians, nutrition experts, and statisticians. Four committees were appointed to conduct a careful study of the relationship of forced weight reduction to health, as follows: (1) For the preparation of a statement of basic principles governing human diets.

(2) For the consideration of adequate height-weight-age tables for adults. (3) For securing proper public-health education in this field. (4) For the study of available clinical statistics, including hospital records of disease, to determine the physical and mental effects of weight reduction. With some of the foremost authorities of the country concentrating on this moot question, some satisfactory gauge should soon be within reach of the clinician.

(c) The Lions Club has adopted as its major activity the welfare of the blind throughout the nation, and has joined with the Pennsylvania Association for the Blind and the National Committee for the Prevention of Blindness in an effort to prevent such cases as can be prevented and to show that the blind can be made self-supporting and useful members of the community. Hon. Henry E. Lanius, for fourteen years a member of the Pennsylvania Legislature, and a nationally known chautauqua speaker, will spend the next year conducting in each of the 53 cities where there is a Lions Club an intensive one-week's campaign under the auspices of the club to acquaint each community with the causes of blindness and the means of eliminating or counteracting them, and the existing opportunities for training the blind.

(d) The American Child Health Association is planning a nation-wide cross-section study of school health programs, the results to be made available and helpful to teachers and health workers.

(e) President Coolidge has invited seventeen of our continental neighbors to a Pan-American Red Cross conference to be held in Washington from May 25 to June 5, and foreign nations have been asked to send delegates. The League of Red Cross Societies and other international and national societies engaged in welfare work will also take part, and the principal subject under discussion will be public health.

(f) The National Tuberculosis Association has voted to create a Trudeau Medal to be awarded yearly to that individual who, in the judgment of the association, has made the most meritorious contribution on the cause, prevention, and treatment of tuberculosis during the previous year.

(g) The National Committee for the Prevention of Blindness is waging an active campaign to increase interest in the subject of trachoma among the Indians. It is pointed out that its etiology has completely baffled research, and that no epidemiological study has yet been made that is broad enough to include all possible influences that should be considered in view of the discoveries and observations made in the field of chemical research and of the results of food deficiencies.

(h) The National Committee for Mental Hygiene has recently made provision for the formation of a group of associate members, open to all upon payment of $5 or more each year. It carries with it subscriptions to the Committee's quarterly, *Mental Hygiene*, and the monthly *Bulletin*.

(i) The Women's Foundation for Health is offering the Agameda Medal, to be conferred on one woman in each state who has done, according to the vote of that state, the most outstanding service for the health and happiness of other women through the past year. The votes are sent to the Dean of Women of the State University for each state. The woman receiving the greatest number of these votes will receive a bronze medal.

(j) The American Social Hygiene Association is testing the possibility of using St. Valentine's Day with its exchange of greetings, as a means of promoting fine ideals.

(k) The American Society of Heating and Ventilating Engineers has appointed a committee on schoolroom ventilation to work with the committee on ventilation of the American Public Health Association.

(l) At the request of the American Legion and other agencies, General Frank T. Hines, director of the U. S. Veterans' Bureau, upon the recommendation of Dr. Crossman, medical director, has appointed a board of medical officers to conduct an investigation into the residual effects of warfare gases. This work will begin at once, will necessitate a study of the present status of some 70,000 men who were gassed during the war, and will extend over a period of 12 to 18 months.

(m) The National Safety Council, 108 E. Ohio St., Chicago, has issued a pamphlet on "Safe Use of Gas in the Home," copies of which may be secured at 15c each or, in orders of 1,000 or more, at 6c each. It has been prepared for the use of such agencies as gas companies, schools, community safety councils, and others, with the function of disseminating information to the general public in the interest of the safe use of gas.

(n) At the annual meeting of the Playgrounds Association, Dr. Henry J. Gideon, of the Philadelphia Board of Education spoke on the need of playgrounds and of the great benefit they are to the children of the city, saying that "in every big city where there are playgrounds, juvenile delinquency and juvenile crime have been lessened from 10 to 50 per cent."

(o) At the convention in Indianapolis last October of representatives from children's hospitals and other child-caring institutions, a permanent Association of Children's Hospitals was organized to work in coöperation with the American Hospital Association. The next meeting will take place in Philadelphia in conjunction with the larger hospital group.

(p) The German Red Cross has recently produced a popular film on first aid in accidents, which takes 55 minutes to run. Red Cross societies of other countries may use this film, either through purchase of copies or by applying for the rights of presentation from the German Red Cross.

(q) On March 15th the fourth annual All-Philadelphia Conference on Social Work met to discuss "Goals for Philadelphia" in terms of prevention and treatment of delinquency, health, recreation, and relief. This rather unusual conference is composed of representatives of at least three hundred organizations, and comprises penologists, physicians, philanthropists, legislators, preachers, educators, bankers, social workers, nurses, and others interested in bettering social conditions.

(r) When householders in Philadelphia took into their homes the daily supply of milk one morning in February they found adorning the neck of each bottle a card presenting an appeal from the Citizens' Safety Committee of the Philadelphia Chamber of Commerce pleading for support of parents in the work of safeguarding child lives. This unique method of getting into every household was carried through for the first time in any safety campaign through the coöperation of all the large milk distributors of the city, who placed extra men in service and lengthened the distribution time to make possible the placing of the card on each bottle. As a result of the appeal, hundreds of parents called up the Safety Committee headquarters, which had been held open for the purpose, and asked for

information and material covering child safety that would help them in their educational work in the home.

In the appeal, it was pointed out that, based on statistics, 240 children would lose their lives this year through accidents "unless we exercise greater vigilance for their protection." The seven greatest dangers confronting childern were listed on the appeal as follows: Running from behind parked vehicles, sledding in the street, playing in the street, playing with matches and about bonfires, "hopping on" vehicles, roller-skating in summer, thin-ice drowning in winter, and scooter and express-wagon coasting in streets. This is the opening gun in a year-long fight which the Citizens' Safety Committee is to make in 1926 for the cutting down of child accidents.

Medicolegal Notes

(a) The Maryland Court of Appeals holds that an ordinance which gives physicians with police permits the right of way at street intersections without providing for any means of identifying physicians' vehicles is not a reasonable traffic regulation.

(b) The Minnesota Supreme Court holds that an inguinal hernia, the development of which is caused by overexertion or strain, is an "accidental injury" within the Workmen's Compensation Act and is compensable, regardless of its scientific classification, or whether the employee is predisposed thereto.

(c) Controller General McCarl has ruled that the Navy Department cannot legally pay a sailor the sum of $25 for blood which he gave in a transfusion operation to a Lieutenant Commander, even though he was not a volunteer donor. He holds that the expense of blood transfusion, so far as the patient was concerned, might be regarded the same as an expense for drugs or other items incident to hospital treatment, but that the operation involved, from the standpoint of the donor, the rendering of a personal service rather than the sale of a commodity.

(d) A bill introduced into the Swedish Riksdag proposes obligatory maternity insurance in connection with a general reorganization of the sickness-insurance system; also national support for women employed in Swedish industries while their children are infants.

(e) A petition has been presented to the Imperial Diet of Japan asking for the establishment of a national academy for stammerers. Statistics presented with the petition show that there are 1,200,000 stammerers throughout the empire.

(f) The professions involved will be greatly pleased to know that as a result of their combined efforts, the narcotic tax has been reduced from $3 to $1. Section 703 of the Revenue Act of 1926, approved February 26, 1926, states that "physicians, dentists, veterinary surgeons, and other practitioners shall pay $1 per annum narcotic tax, effective July 1, 1926."

How to Fight the Influenza Epidemic

The following is an abstract of a letter sent to the physicians of Philadelphia by its Department of Public Health:

The great prevalence of cases of "upper respiratory troubles"—influenza, bronchitis, and pneumonia—with resulting fatalities in both influenza and pneumonia, has prompted a recent discussion of these diseases by the Pneumonia Commission, of Philadelphia.

These diseases are undoubtedly infectious in nature, and contact transmission from person to person, and droplet infection by coughing and sneezing, are probable methods of dissemination. In the opinion of the Pneumonia Commission much good would be accomplished by full coöperation of the physician with the Department of Health of the city in making a vigorous effort to curtail further infection along the following lines of prevention: (1) Report all cases of pneumonia to the Bureau of Health. (2) Direct patients to disinfect all nasal discharges and sputum from colds, influenza, and pneumonia. (3) Children suffering from colds should not be sent to school. (4) All persons suffering from colds with the consequent sneeze and cough should be directed to sneeze or cough into a handkerchief. (5) The usual causes for catching cold should be avoided. (6) Patients suffering from colds, la grippe, etc., should remain at home, and not frequent places of amusement or other crowded places.

The Commission requests the physicians of the city to coöperate with the Department of Health in preventing a more serious epidemic of pneumonia, and asks that they "broadcast" the recommendations contained in this letter to their patients and their patients' families.

This procedure is applicable to any community.

New Social Classification Thought Possibility of Near Future

A new social classification, based not upon blue ancestral blood, but upon the red blood of the living, is a possibility of the not remote future. That was the thought in the mind of Dr. Florence Sherbon, of the University of Kansas faculty, when she launched a new venture six years ago at the Kansas Free Fair at Topeka—a "Fitter-Families Contest." "The time may come," Dr. Sherbon said, "when a family not possessing a eugenic certificate will be looked upon askance by the 'certified' family." Thus was born an idea that has since been adopted by six other states and by the National Eugenics Society. In the last six years 523 persons, comprising 126 families, have been examined as participants in the "Fitter-Families Contest" in the Kansas Free Fair. The purpose of the eugenics contests, Dr. Sherbon pointed out, is first to arouse family pride in being well-born and to spread information concerning heredity and conduct.

Married Women in Industry

According to Dr. Mary Anderson, Director of the Women's Bureau, United States Department of Labor, who has made a careful study of married women in industry, "necessity, not faddish desire for a career, is taking so many married women from the home into the world of industry." An increasing number of married women are forced into employment to assist in or provide for their children; 95 per cent of all employed married women contribute to the support of the family. One out of every four women employed is married. It is the necessity that is forcing the women to gainful employment, and not the desire to purchase luxuries. In the final analysis it is the mode of living that is the basic fault, with no apparent solution as to its correction, and as the years pass, more and more married women will go into industry. It is of interest to note that single girls employed in offices are among the most outspoken of those who criticize married women with jobs, and there is gross injustice in this attitude.

Record of Health Examinations will be Doubly Guarded

Fears of school teachers and other employees of the Board of Education of Philadelphia that the records of their health examinations are subject to unwarranted scrutiny, and therefore become public property, recently were allayed. The records are doubly guarded with

two locks, under the custody of the examining physician, and they cannot be scrutinized by any one else except on permission of the person examined. Periodic health examinations have been inaugurated by the Board of Education free to the teachers to aid them to better health. Some have objected that records are not necessary. But they are necessary to the examining physician, who refers to them in his subsequent examinations of the same person. The examinations are made solely for the benefit of those examined, and not for any sinister purpose. The records are not even available to the officials of the Board of Education for any purpose whatsoever.

Gelatine in Infant Feeding

Dr. Joseph Leidy, of Philadelphia, after using the combination of gelatine and milk in infant feeding for the past thirty years, expresses the opinion that it gives results when many other combinations fail. Thomas B. Downey, Ph.D., of the Mellon Institute, has determined that the addition of pure, plain, unflavored gelatine increases the nourishment obtainable from milk by about 23 per cent, and others have reported success in prevention of such infant ailments as milk colic, regurgitation, vomiting, diarrhea, excessive gas formation, and constipation by addition of one per cent of gelatine to the milk diet. Analysis shows that cow's milk is more susceptible than mother's milk to coagulation by acids and rennin, yielding masses that have a tendency to cohere and are quite resistant to penetration by the digestive juices. As the coagulum carries down much of the fat present, nutrients are lost to the organism, and probably decomposition products of an undesirable nature are formed within these undigested curds. The addition of gelatine is of value because its colloidal protection of the unstable casein is of high order, and it is also an excellent emulsifying agent. It should be remembered that there is a great difference in gelatine, and only the purest, unsweetened, and uncolored quality should be used.

Insurance Offered to Ex-Service Men

Less than 100,000 of the 432,000 enlisted men and commissioned officers Pennsylvania threw into the breach in the World War are carrying government insurance, it is pointed out by H. J. Crosson, regional manager of the United States Veterans' Bureau, Philadelphia, in an appeal to ex-service men in this State to take advantage of the chance to obtain this unusual advantage in the form of insurance. Leading business houses, industrial plants, and civic and fraternal organizations have already agreed to support a campaign of education in their fields of influence in an effort to aid the movement. Owing to a lack of funds, a personal canvass of the Pennsylvania veterans in order to convince them of the advantage of taking out this form of insurance cannot be made. The principal aim at this time is to dispel the illusion prevalent among ex-service men that it is now too late to take advantage of the government policies to which they are entitled. Virtually all can be reinstated, and large employers of veterans, and all others interested in the welfare of the ex-service men will be doing them and their dependents a real service if they will urge them to reinstate their policies before July 2, 1926, which is the final date for renewals. The medical profession is urged to give publicity to this matter to their patients and others who may be interested.

Another Increase of State Dues

The Missouri State Medical Association, following the lead of Wisconsin, Indiana, Michigan, Texas, and some others, has increased its annual membership dues. Whereas members formerly paid $5 each year, they will henceforth be required to contribute $8 to the support of the state association.

The tendency throughout the country is toward larger membership assessments. The working programs of those state associations that have kept up in the march of progress have, of necessity, been made broader and have involved more intensive and sustained effort for the solution of important professional and organizational problems, many of which have been more or less neglected in the past. To carry out purposeful programs, money is necessary. The state medical association has only one dependable source of revenue. It cannot guarantee to itself an increased income except as it provides for it through larger membership assessments.

It is to be remembered, however, that it costs money to carry out any sort of a program—purposeful or aimless. To justify an increase in its membership dues, a society must have, and must carry out, a program of the right sort, one that will promote the interests of the society and those of its individual members. Thus the public will be benefited. In so far as is now known, no state association that has increased its dues in a reasonable amount has had reason for regret. As a matter of fact, all of these appear to have justified the action by results that have been secured. But that fact alone cannot well serve as a sole reason for similar action on the part of another state association. There must first be a real purpose and a plan for carrying it out, and then a careful measuring to determine just how much money may be required to do the work well and, in addition, to provide a safe surplus for emergencies and for keeping the organization concerned in sound financial condition. Every society should have surplus funds, but not more than are necessary to meet emergencies and to provide for normal expansion.—*American Medical Association Bulletin.*

HOSPITAL ACTIVITIES

Ten Years of Hospital Development.—*Hospital Management* first appeared February, 1916, and the February, 1926, number constitutes a sort of "tenth-anniversary celebration." This issue contains much interesting data that have been contributed, especially looking backward over hospital progress during the past decade, an epoch period in which *Hospital Management* has been of inestimable service. After all, the practical value of a journal is rated upon the service it renders. The following items of general interest are culled from this number.

"There has been much progress in hospital administration during the last decade. The credit for this belongs to no one individual, program, or factor. The widespread publicity given hospitals during the war because of the need for such services for our wounded soldiers, the program of standardization of the American College of Surgeons, and the advance made in medical science all played prominent rôles. The services which the excellent hospital journals have rendered the hospitals of the continent must not be forgotten.

"Among the many outstanding developments in the hospital field within the past ten years, are: the establishment of journals devoted to the interests of the hospital world, giving a wide-open door for the exchange of ideas on hospital construction, operation, and expansion; the intensive study of special problems by committees (or a group of persons), the data carefully compiled and put into form for widespread distribution; the development of hospital management into a

distinct profession, apart from medicine, apart from nursing, and apart from business management.

"Intern training: Because of improvements in medical education, the graduates of the present day are not merely tolerated as interns, but they are eagerly sought, and in return for efficient and faithful service, which the medical graduate of today can give, the hospital is glad to provide regular systematic instruction and clinical experience—an actual fifth year in medicine. The list of hospitals approved for internships which ten years ago was a list of all those that would admit interns, has gradually developed into a list of 565 splendid hospitals that are giving a general internship that appeals to graduates of class-A medical schools, from which the large majority of interns now come.

"Postgraduate medical education: The great war interrupted foreign postgraduate medical education. Also it awakened in practicing physicians the demand for practical short courses such as can be given in hospitals. Thus a large number of hospitals in this country are providing splendid opportunities for postgraduate work in a variety of departments.

"Ten years ago the state hospital association was a rarity; today the states able to do so which do not have well organized hospital affiliations are the exception. Night clinics, social work, medical and surgical procedure, nursing, and all similar agencies have made tremendous strides in the betterment of social conditions and problems. Many services of today were not even thought of ten years ago.

"National Hospital Day, as advocated by *Hospital Management,* has been a wonderful educational factor.

"Probably no decade has witnessed greater developments in the hospital field than the past ten years. This is particularly true with regard to sanatoriums for the tuberculous, in the planning of which more changes have taken place in the past decade than in all the years previously since the sanatorium movement was inaugurated. Several factors have contributed to the changing ideas with regard to sanatorium planning: notably, the improvement in diagnostic methods and facilities, and the development of various forms of alleviative and therapeutic measures. One might cite as comparatively recent developments: the use of the x-ray for diagnosis; the increased attention given to laboratory work, both for routine and research; the regular routine attention given in all modern sanatoriums to dental work, and the treatment of ailments of the upper respiratory tract that so often accompany pulmonary tuberculosis; the introduction and use of pneumothorax and of chest surgery; and the increasing attention that has been paid in recent years to phototherapy, including heliotherapy and lamp treatment.

"Social service, physiotherapy, and occupational therapy have all passed through their experimental period during the last ten years. There can be no question about the importance of the service which they render to the patient in those institutions in which there is a possibility of using them.

"The outstanding developments in the hospital dietetic world during the past decade are the organization of dietitians, and the movement toward higher standards of education for hospital dietitians.

"The great advance in hospital work during the past ten years has been made in the laboratory departments. The findings of the laboratories now are much more conclusive as a means of diagnosis than they formerly were. New methods are being constantly introduced, and a higher grade of personnel is constantly being employed. During this period entirely new kinds of laboratories have come into use. The physiological-chemistry laboratory is producing results that are radically changing methods of medical procedure. Physiotherapy and occupational-therapy laboratories, are doing great things in the way of helping all patients, but more particularly those designated as surgical. The period has also emphasized the change which started about ten years ago in the decoration of hospitals. More and more they are getting away from the old institution idea and are losing that barrenness which brought terror to the hearts of patients. As a result, the period of convalescence now is one of comparative comfort, and the length of stay in the hospital is constantly decreasing.

"The period has also brought into adoption the building of hospitals into the air rather than spreading them over a large ground surface. This change is perhaps the most striking of any in an architectural way that has come to hospitals. Another marked change is the ever-increasing amount of space assigned by hospitals for other than bed purposes. Another desirable change is the gradual passing of large wards. Today, new hospitals, when building wards at all, limit them to four- or six-bed capacity.

"The greatest changes that have taken place in the hospital field as a whole are the more effective administrative work of the American Hospital Association, through its board of trustees and executive secretary, and the establishment of Hospital Day."

Electrical Cooking.—The problem of hospital-cooking methods is one of considerable interest and importance, due to the question of capital cost, maintenance, staff, and the results obtained. The employment of electrical cooking in this country has been limited. The superintendent of a 136-bed hospital in England, after 33 months of experience, draws the following conclusions: The appliances have been found to be most satisfactory in relation to cleanliness and efficiency, and economy in running and repairs. No hospital can be satisfactorily equipped with only electrical apparatus, as it is requisite to have a supplementary equipment of steam appliances. In considering the installation of electrical equipment, the following must be borne in mind: relative cost in comparison with other methods, construction of apparatus, and the ease of control and economic operation of appliances. —*Modern Hospital.*

Rate Concessions.—There is frequent discussion in regard to what discount on hospital rates shall be allowed to members of the staff, their families, physicians not connected with the hospital and their families, graduate nurses, and employes. Questionnaires were sent out to 175 hospitals in the United States and Canada by George W. Wilson, Superintendent of Hamot Hospital, Erie, Pa. There were 127 replies received. In response to the question, "Do staff members receive personal care without charge?" 60½% were negative. In reply to, "Do members of the staff-member's family receive care without charge?" 75½% were negative. Out of 77 hospitals which did not render absolutely free care to the members of the staff, 60 made concessions, the majority being in the class from 20 to 33 1/3%. In 96 hospitals which did not give free care to the staff-member's family, 62 reported a concession from 10 to 66 2/3%. In regard to concessions made to the medical profession in the community, not members of the staff, 43% gave a discount varying from 10 to 66 2/3%. In regard to graduate nurses cared for in their own training-school hospital, 20 hospitals reported free care where endowed rooms were not provided, 45 hospitals granted concessions varying from 10 to 50%, and 5 of the total made no concessions.

In cases of nurses not graduates of the hospital, 45 hospitals gave a discount varying from 10 to 50%, and 48 gave no discount.—*Modern Hospital.*

Physiotherapy.—A. E. Schiller, M.D., Chief of the Department of Physiotherapy, Grace Hospital, Detroit, Mich., a 100-bed hospital, gives a list of equipment and some comments on their various uses. He concludes as follows: "In view of the fact that there is an ever-increasing demand by the public for active therapeutic consideration of their ailments, and that physiotherapy has proven itself a valued aid to our present system of therapeutics, can we, conscientiously, refrain from using these methods? Furthermore, the use of the electrical current, mechanical measures, and other physiotherapeutic measures, when scientifically applied, gives an addition to the armamentarium of the physician, and is extremely valuable, provided that too much is not asked of inanimate apparatus. It should be used as a medicine rather than as a cure-all; but with a diagnosis made and physiotherapy indicated, surprising results can be obtained, and the hospital can render a signal service by giving its staff an adequate department, properly equipped and properly managed. —*Modern Hospital.*

National Hospital Day will be May 12th. Hospitals may do much by interesting the various clubs in the community in their needs. The clubs should be invited to visit the hospital plant, when the necessities of the institution can be explained. The local newspapers and any publications issued by the clubs can aid the cause by the publicity issued.

Sterilizers Behind Walls.—In the central sterilizing plant there should be autoclaves and boilers for sterile water, all operated by high pressure steam from the main boiler room. Each should be inclosed behind tiled walls, and only the faucets, valves, and gauges visible. This means that the heat and steam which necessarily escapes from such equipment does not penetrate into the operating rooms, but escapes out through shafts constructed for the purpose. Sterile water is piped through the walls to each operating room.—*Modern Hospital.*

PUBLIC HEALTH

Looking in the Mirror.—How can we get rid of "nervousness"? It is well for physicians to attack this ever-present problem by first directing attention to ourselves. Self-examination and self-correction should lead to the best results on others. These brief hints are from the personal angle.....Any one conscious of a recurring uneasiness, lack of confidence in thought or decision, needs to "jack himself up." He is then not well. Naturally each of us must suffer some ailments. Many may be disregarded. To let them bother us leads to evil thoughts and morbid mental habits. Yet just here is a serious dilemma. It may well be that our sense of ill-being is a blessed warning of what might lead to illness. The only safe and wise course is to give the symptoms due consideration and rectification. Hence the need for keeping one's body in as good a state as meeting the pressure of circumstances will permit. It is well to revise our body habits so as to leave no bad one uncorrected. These may and do impair our judgment in dealing with those of others.

Included are the obvious precautions through personal hygiene. The chief of these are wholesome activities balanced by suitable rest. It can be done profitably, even by the busiest man alive.

Fatigue toxins cause the largest impairments of judgment in things large and small. This is true also of nutrition, food selection and rejection, of when and how to eat.....Few busy citizens can be persuaded to give their physical distresses and discomforts any adequate attention unless they are overmastering or cruelly painful. Here we come to the most commendable enterprise which the profession is urging upon all —periodic physical, or let us add, mental examination. No one measure is so promising of economic rewards. Let the physician set the example.—J. Madison Taylor, M.A., M.D.

Educating the Public on Personal and Community Health.—I believe we are all agreed that public-health education is to be preferred to public-health legislation, understanding and appreciating as we do that the fundamental principles of health and the prevention of disease are more than half the fight to promote public health. I am sure that one of our greatest obstacles in carrying out our programs of sanitary improvements has been a failure to grasp the true significance of modern progressive public-health methods. This holds true not only for the average person but very often for the better educated who lack knowledge of the means of disease prevention and of health promotion. Some time ago when conducting a campaign to eliminate common drinking ladles in one of our public parks, the official in charge stated that he always drank out of his hat when a boy, and never contracted disease. And so our health education must be divided to reach different types of persons. The school child needs different methods of instruction than the school teacher; the average laborer must be spoken to in different tones and with selected phrases which differ largely from those used to business men and chambers of commerce; the youth with a vivacious jazz spirit must be addressed differently than the parents; and the general popular audience common at a mass meeting has a different receptive mood than that of a civic club, city club, or other private organization. In other words, publicity must be graded according to those whom we wish to reach.—Wilmer Krusen, M.D.

The First American Health Congress.—For the first time in the history of public health in America, those who are doing the work itself will have a chance to meet together and view it as a whole when the American Health Congress convenes in Atlantic City, May 17th to 22d. This Congress has been the dream of the National Health Council since its formation in 1921, and will reveal the vast strides in coördination of effort and coöperation that the Council has brought about for its member organizations during the last five years.

Included in the membership and on the staffs of these participating organizations are the leading authorities of the country in every phase of public health—tuberculosis and cancer control, prevention of blindness, social and mental hygiene, public-health nursing, the control of preventable diseases, the study and care of heart disease, and positive health education for both children and adults. This means that the programs will not only show the accomplishments of public-health workers up to the present, but will also forecast the plans for the future. It is possible that a public-health program for a decade may result from the meeting of specialists in so many fields.

To address the opening session of the American Health Congress, Sir Arthur Newsholme, who has been highly influential in the development of public-health work in England and who also has a close knowledge of the American public-health situation, is

visiting this country. Professor C. E. A. Winslow, president of the American Public Health Association, will address one of the general sessions of the Congress. "Is Public Health Improving the Race" is the piquant title of the address to be delivered by Dr. Ray Lyman Wilbur, president of Stanford University. It is especially fortunate that this American Health Congress will hear of the international phases of health work from Dr. George E. Vincent, president of the Rockefeller Foundation. Many other renowned speakers will complete the well-arranged program.

Meeting at the same time, in Atlantic City, the three national nursing organizations—the American Nurses Association, the National League of Nursing Education, and the National Organization of Public Health Nursing, will hold their biennial convention. The American Child Health Association and the Conference of State and Provincial Health Authorities of North America will gather at this time for their annual meetings. The member organizations taking part are: American Child Health Association, American Heart Association, American Public Health Association, American Red Cross, American Social Hygiene Association, American Society for the Control of Cancer, Conference of State and Provincial Health Authorities of North America, National Committee for Mental Hygiene, National Committee for the Prevention of Blindness, National Organization for Public Health Nursing, National Tuberculosis Association, United States Children's Bureau, United States Public Health Service, and Women's Foundation for Health. This means that the field of public health is completely covered in the general and special sessions. It is of special interest that the General Federation of Women's Clubs will hold its meeting immediately following the American Health Congress.

Exhibit space has already been taken by commercial and noncommercial groups, forming one of the most educational health displays that this country has ever seen.

Special railroad rates from all parts of the country have been secured, and already the assurance is that there will be at least 7,000 in attendance.

INDUSTRIAL MEDICINE

Let's Face the Sanitation Question.—What is it worth to have your men say: "You bet, our plant is a fine place to work in"?

Probably there is no job that is more thankless than the one of the man who has the responsibility of keeping the plant clean. Certainly the job is thankless if the plant is not kept clean. Unkempt surroundings have a telling effect on the morale of the workingman. And this effect is reflected in the amount and the quality of the work that he turns out.

There are many apparently small factors that have an important bearing on the rate of production. They might be termed "accessories" to production. Not the least of these are sanitary toilet rooms, adequate locker space, plenty of soap, and a host of similar "accessories." Employees appreciate locker rooms to a greater degree than most managers realize. Being able to lock up one's clothes during working hours relieves the employee of the anxiety of losing his personal effects. Unless locker rooms are well ventilated, the odors of worn clothing, especially on rainy days, will be very obnoxious and insanitary.

The toilet-room equipment in modern factories has greatly changed from former days. Special care has been taken in the design of modern apparatus to insure sanitation, cleanliness, and ease in cleaning. Formerly, this phase of industrial building design was not given much attention. Crude forms of flush closets, urinals, and sanitary piping connections were used. Today, the best is none too good for the progressive industrial plant. The urinal equipment has changed from the iron or steel troughs to the high-stall porcelain fixtures, which are now installed on raised platforms. This equipment is much easier to clean, and it furnishes a sanitation which is greatly appreciated. Shower baths are popular with employees who work in dusty or dirty places, such as are found in foundries, in woodworking plants, and in steel mills. Some state laws specify that a shower bath must be furnished for each certain number of employees.

Toilet-room ventilation is very important. Some state ordinances specify that all flush closets shall be back-vented. Other states are not so strict on this matter, and do not require the back vent. In cases where the fixtures are back-vented, they should be connected to some form of revolving ventilator, or fan, on the roof, to remove obnoxious odors. It is also advisable to provide mechanical means of toilet-room ventilation, by means of air ducts and fans, so that the change of air in the rooms can be rapid.—From K. D. Hamilton, *Factory Magazine*, November, 1925.

Coöperation of the Medical and Safety Departments.—In selecting a doctor, certain facts should be borne in mind. Most men will talk to a doctor who has a pleasing and sympathetic manner. The doctor has a chance to speak to the men about the prevention of accidents and diseases from many angles, and should have a convincing personality. He should speak in the language of the shops. It should be the doctor's aim to prevent accidents and disease, and not merely to cure the patient who is already ill. He should realize that he, like the safety engineer, is employed to give advice to reduce the hazards of the industry. They should both be members of the safety committee.

The doctor should not depend on the safety man to hunt up work for him, but must be live and aggressive. When not busy otherwise, he should go out in the plant and get acquainted with the men, and with the individual hazards of their employment. By visiting the complaining or ailing man at his work, he may be better able to determine the cause of the ailment. If a man does not fit in his present job, the doctor and safety engineer should get together and have him transferred to a department where he will fit. There is some place for him. If a machine does not do the work right, we do not discard it, but locate the trouble and adjust or repair it until it does work properly.

Speaking of machines, we examine machines carefully at frequent intervals. Why should we not give our employees medical examinations at frequent intervals? Why not a medical examination before they are employed? A machine is profitable only when it is working well; the same applies to an employee. The man need not be taken away from a department for the examination if the foreman says he cannot be spared.

The doctor, safety engineer, and foreman should coöperate in getting the man back to work as soon as possible after an accident—if not to his regular work, then to some light work. The doctor and the foreman must work together in insisting upon prompt attention to an injury. If a man's production is not up to standard, the safety engineer and the doctor should get together and find out the trouble.

The doctor should be selected with as much care as the superintendent. There should be just as much care in selecting a location for his office. It should be handy to the rest of the plant, a place where men will go willingly, and should be in operation all day.—From Oliver F. W. Cromwell, *Industrial and Engineering Chemistry,* December, 1925.

Factors and Standards Relating to the Efficiency of Women in Industry.*—Woman was the first to be domesticated. This was on account of the more steady and settled life she had to live. She next domesticated man, as his hunting and fighting days disappeared, and taught him how to work. So there is historical evidence and precedence for women's work in industry. The influence of the employment of women upon modern industry has been beneficial and the necessity for protecting her at work because she is a woman and mother of the race has greatly redounded to the benefit of man in industry. There are about ten million women gainfully employed in the United States today, with the trend continuing strongly toward the factory and office, and away from domestic and agricultural pursuits.

Pennsylvania laws which permit its Department of Labor and Industry to formulate codes for safety and health are quite in advance of most states. Prohibited and restricted employments for women are probably nowhere better arranged for. The state legal maximum of 54 hours per week with 10 hours per day is somewhat in excess of the 48-hour week and 8-hour day aimed at under the Federal standards.

Equal wages for equal work on the part of the sexes is urged. Historically, such was the case, but when it was discovered, about 1467, that woman could be fed for only three half-pence per day where the board of man cost two whole pence per day, the difference in wages began. Yet equal work requires equal energy, and of course an equal amount of food, and presumably, accessory upkeep. Outside of hours and wages and direct supervision, the balance of the question of the efficiency of women in industry might well be left to a new department which is appearing in industry called "Industrial Medicine," or "the philosophy, art, and science of medicine applied to industrial affairs."

Our English friends tell us that industrial medicine applied properly in that country could effect a saving each year of $700,000,000 from reduced labor turnover, lost time from disability, and shortening of the convalescence period when sick. Industrial medicine brings about efficiency through the physiological selection and placement of workers, hygienic as well as surgical watchfulness over them, care of health complaints before disease develops, and the instruction of each individual regarding his or her capabilities. It also influences community affairs in beneficial directions and is a common court for fair dealing in production.

I have recited a number of examples from my own industrial experiences. In one instance, a plant employing 5,000 women and girls increased production ten per cent over night by a readjustment of ventilation in the work rooms. Much "sickness" is imaginative and that especially in salaried positions. It affects from ten to twenty per cent of those employed. This is a practical question which the industrial physician can settle. Foreigners, negroes, and people from country districts contribute the most disability as a rule, largely because their private medical care is less adequate. Employees, left to themselves, often devise ludicrous schemes of health protection, such as wearing heavy sweaters in laundries, preferring a gassy atmosphere because it is warm, or long work spells of six or seven hours without a meal time in order to quit earlier.

Occupational diseases, as such, among women are insignificant in number. During the last five years only 412 cases have been reported in Ohio where records are officially kept. Of these, 370 were skin irritations among rubber workers. But there were 22 cases of benzol poisoning and 12 of lead poisoning, most of the latter due to the spraying machine.

Industrial medical service for the small plant presents a serious problem which especially needs state supervision and direction. However, it has been solved in several cities by private efforts on the part of certain industrial physicans.

Medical men are absolutely necessary in health matters. Lay supervision alone cannot be considered effective where health is concerned, and the sooner this is recognized the sooner real efficiency in production from workers themselves will be accomplished. Such work will average $25 per year per employee, but there is no reason why the workers should not contribute part of the expense by a draw on each pay envelope. The object is to increase their total income as well as the plant production. Time and again it has been demonstrated that as the curve of expense for a medical service goes up, the curve of absence due to disability goes down. A little thing such as a change of only two degrees of temperature in a room has been found to decrease sickness 70 per cent, and yet the cost of correct ventilation was much less for both installation and maintenance.

The amount of attention given to safety matters should not be disparaged, but Sappington in Boston found that sickness causes twenty times as many cases of absence from work as accidents, and seven times as much lost time in a factory process. While there may be even more sickness in the community than in the factory or office, still, so large a part of the latter can be controlled by the industry itself that it becomes a moral obligation. Many well-organized plants have cut in half the average record for disability absence by a careful study of the reasons in individual cases.

This question of human efficiency in employment offers a rich field for commercial investment in the medical side as well as for humanitarian measures. Like the influence of a trace of carbon in steel, it is the little things which count. A nice cafeteria for warm noon meals has held many a worker. While women have the greater amount of disability of the two sexes, so much of this is preventable that, because they are the steadier workers when well, they should have special attention to keep them so.

*Abstract of paper read at Conference on "Women in Industry," Pennsylvania Department of Labor and Industry, Harrisburg, Pa., December 9, 1925, by Dr. Emery R. Hayhurst, Ohio State University and State Department of Health, Columbus, O.

PITTSBURGH ACADEMY OF MEDICINE

ABSTRACTS

The Interpretation of the Comatose State.—The procedure that best serves the purpose in cases where the cause of coma is obscure is determination of the blood chemistry. This should include at least examination of the urea nitrogen, creatinin, glucose, and the CO_2 content of the plasma. From these estimations certain fairly definite conclusions can be drawn:

(1) A high nitrogen retention would be rather strong evidence of uremia, but one should scarcely be justified in making a diagnosis of nephritis and uremia in

the presence of normal or only slightly increased blood nitrogen. However, the real cause of uremia, as a chemical constituent, while possibly related to the nitrogenous bodies, is not necessarily so, and may be a substance produced or retained concomitantly with the blood nitrogen retention. In spite of the fact that in coma from causes other than nephritis the blood nitrogen may be normal, yet it is surprising how frequently this relationship is disregarded and the coma considered as due to uremia, especially if there happens to be an accompanying hypertension. A definite creatinin retention, in addition to confirming the significance of urea nitrogen retention, is also of considerable prognostic importance, as a finding of over 6 or 7 mgm. per 100 c.c. of blood usually means a fatal issue.

(2) While in intracerebral hemorrhage, either spontaneous or from fracture, the blood sugar is frequently slightly increased, yet the finding of a definite hyperglycemia would be strong evidence of a true diabetes mellitus. This evidence would be strengthened where there was a clear spinal fluid, a previously existing glycosuria, and no history of head injury.

(3) If, in addition to the hyperglycemia, the plasma CO_2 content is found low, there would be additional evidence of a diabetic coma, though, of course, not specifically so.

(4) When there is a possibility of gas poisoning, especially from a stove, in a garage, or a closed room, the cherry-red color of the blood will sometimes suggest the cause. In such a case it is well to have a spectroscopic examination of the blood.

A second procedure available in the differentiation of the causes of coma is a lumbar puncture. This will determine the presence or absence of blood, white blood corpuscles, pus, Wassermann, and other factors, in cases of fractured skull, meningitis, neurosyphilis, etc. Other procedures are urinalysis (which will ordinarily yield little accurate information) and examination of the gastric content for various poisons.—C. W. W. Elkin, M.D.

The Use of Oxygen in Tuberculosis of the Peritoneum and Pleura.—Two main types of tuberculosis of the peritoneum are seen—the dry and the exudative—sometimes concurrently. The type of treatment and the extent of any surgical procedure in such cases must be decided for each individual. It is well known that many of these patients with two or more liters of fluid in the abdomen improve rapidly after simple aspiration followed by the entrance of air and light into the peritoneal cavity. Since the air alone is thought to have a curative effect, it is fair to believe that filling of the peritoneum with undiluted oxygen might be even more effective.

In a boy, aged 16, under local anesthesia a small incision was made, and about 7½ liters of straw-colored fluid was evacuated. The visceral and parietal peritoneum was studded with hundreds of tubercles. No definite original focus was found. In one week much fluid had re-formed, and this rapid return prompted the use of oxygen. A half-inch incision was made down to the peritoneum. A small opening was made and surrounded by a purse-string in the peritoneum. The fluid was sucked into a vacuum and pure oxygen was passed through the aspirator until the abdomen was fully distended. This was allowed to escape in a few minutes, and was replaced by new oxygen. The purse-string sealed the peritoneum as soon as the aspirator was removed. The patient's temperature and pulse began to recede, and he began to improve generally. After two weeks a small amount of fluid had re-formed. The treatment was repeated, and the patient went home. From the first injection his recovery was rapid.—N. P. Davis, M.D.

Results of One Hundred Consecutive Cases of Uterine Curettage.—The indiscriminate use of uterine curettage has been the subject of much adverse criticism within recent years. Its misuse is admitted, but for uterine bleeding of undiscoverable origin it still remains the instrument of choice as a diagnostic and occasionally therapeutic measure.

In a series of 100 cases, the following positive results were tabulated: Age according to menopause—before, 74; during, 7; after, 19. Uterus normal size—49. Uterus large and smooth, 28. Definite multiple fibroids, 23. Number of cases of positive pathology, both clinically and microscopically—carcinoma of the body, 6; carcinoma of the internal os, 2; polypoid or glandular endometrium, 14; sarcoma, 1; total, 23. Relief of symptoms after curettement, 14. Mortality where dilatation and curettage only were done, 0.—J. N. Stanton, M.D.

Purpura Hemorrhagica; Report of Two Cases.—One patient was a white boy 8 years old, who was admitted to the hospital with the chief complaints of bleeding from the nose and mouth, and numerous hemorrhages under the skin in all parts of the body. The following laboratory data are of interest: hemoglobin, 52%; red blood corpuscles, 3,704,000; leukocytes, 9,600. The differential count showed nothing of interest except a complete absence of blood platelets. The coagulation time was 3½ minutes, while the bleeding time was more than 2 hours. The urine examination was negative, and there was no blood in the stools. The history showed nothing of note, and the physical examination was negative except for the hemorrhages distributed over the chest, abdomen, and legs. During his stay the child became progressively worse, and died 5 days after admission.

The other patient's illness began about three weeks prior to his admission, with headache and pain in teeth and lips. He felt tired and weak, and in his right axilla was a painless lump. Ten days later the mother noticed spots on the legs and arms, over the right eye, and on the right arm. From the onset, the patient had attacks of vertigo when he looked at artificial light, and frequent nose bleeds. He had always been delicate, and was jaundiced when born, but the physical examination disclosed nothing aside from the hemorrhages, enlarged cervical, axillary, and inguinal glands, and palpable liver and spleen. The blood-coagulation time was 5 minutes, the bleeding time more than 1 hour, the bleeding finally being stopped by pressure. The red blood corpuscles were 2,780,000; hemoglobin, 64%; white blood corpuscles, 17,200; polymorphonuclears, 24%; eosinophils, 1.5%; basophils, 5%; small lymphocytes, 30%; large lymphocytes, 35.5%; large mononuclears, 5%; transitionals, 4.5%. No normal blood platelets were observed. Urinalysis upon admission showed a trace of albumin.

Two hundred c.c. of citrated blood was given intravenously, but bleeding continued from the site of transfusion, and new hemorrhages appeared daily until his death, nine days after admission, or about five weeks from the onset.—J. K. Everhart, M.D.

Robert M. Entwisle, M.D., Secretary.

Of 8,000 patients recently studied at the University of Michigan Dental Clinic, over 2,400, or 30 per cent, gave a history of some systemic lesion such as arthritis, heart or kidney involvement. Early recognition of oral sepsis is just as important as early detection of any other disease.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

VETERANS' LEGISLATION

The attention of the officers of component societies has recently been attracted to the subject of existing and proposed Federal veterans' legislation. We believe that the twenty-four hundred county medical society members from Pennsylvania, who voluntarily enlisted in 1917-1918 for service in the World War, are well qualified to express opinions regarding the extension of free treatment to sick or injured veterans by the Federal Government. Most of the twenty-four hundred physician veterans referred to pay Federal taxes, and thereby contribute financially to the free treatment of neighboring veterans who may be well able to pay, or who, in many instances, might be better treated by home-town physicians in home-town hospitals at government expense.

The anxiety of our Federal Government to give free hospitalization and free outpatient treatment to all veterans of all wars and certain civilians who also served, may be but a reflection of a desire to maintain indefinitely war veterans' hospitals, with salaried staff physicians, on a numerical basis equaling their capacity of 1920-1924, when *bona fide* disabilities due to war service were to be expected in great numbers.

That many who are not morally entitled to take advantage of the free treatment under discussion will take advantage of it is thoroughly demonstrated by the fact that in the first year of the operation of the present Veterans' Act, which gives free treatment only to veterans of the World War, more than thirteen thousand veterans were treated at government expense for disabilities unrelated to war service, without consideration of their ability to pay.

Surely county medical society members, who are also members of the American Legion, are in an extremely strategic position to exercise effectively influence against the veterans' legislation now before Congress, which proposes to provide for hospital and outpatient treatment of all former service men of all wars, military expeditions, and military occupations, without respect to the origin of their disability or their ability to pay, for the reason that it savors of (1) socialized medicine, and (2) Federal paternalism.

MEDICAL ETHICS

We recently attended a meeting of a component county medical society and took part in the discussion of the important but infrequently formally discussed subject of medical ethics. The discussion resulted in a determination on the part of the officers of the society to:

(a) Furnish candidates for membership in the Society with a copy of the *Code of Ethics*.
(b) Require of each newly elected member a formal appearance before the Society and attachment of signature to the statement that the rules and regulations of the Society would be upheld.

At the conclusion of the above-mentioned discussion the Society listened with much merriment to a paper on "Aids to Physical Diagnosis," which was a travesty on a not uncommon form of so-called scientific paper. More or less familiar characters were burlesqued and common situations were parodied in a clever manner. The paper, which had been prepared by a member of the county medical society, was delivered by one who was a stranger to all but the officers of the society, and was followed by an amusing discussion by one or two members who were "primed in advance."

There seems to be no doubt that the subject of medical ethics might, with profit, be discussed at least once in two years before most county medical societies, and there is no doubt that recommendations (a) and (b), mentioned above, might well be adopted by all component societies. We recommend also that the tension, which may reasonably be expected to occur dur-

ing a discussion on the interpretation of the code of medical ethics, be followed and relieved by a program designed to make light of some of the foibles of the *genus medico*.

PERIODIC HEALTH EXAMINATIONS

Certain members of the faculty of the Medical Department of Temple University, having equipped themselves with periodic-health-examination blanks designed and furnished by the Public Relations Committee of our Society, will in the future examine annually all the undergraduate students in the Department. This is a splendid way in which to impress, in the formative period of a medical man's career, the importance of periodic physical examinations, even though one is apparently in good health, and also a very practical method of instruction in the proper technic for conducting such examinations.

MEDICAL DEFENSE

Another medical-defense case defended in behalf of one of our members who had no protection, except that offered by the State Society, has recently been successfully concluded after three days' trial in court. The member thus defended expresses himself as being not only appreciative of the payment by the Society of attorney's fees, expressed in three figures, but as being especially gratified by the support he received in court from his fellow members in his County and State Societies.

ITEMS OF INTEREST

Dr. James M. Hamilton, a member of the Allegheny County Medical Society, who has practiced medicine for fifty years in Oakmont, a residential suburb of Pittsburgh, was presented with a handsome motor car by a large number of his grateful patients and fellow townspeople. It is significant to note that the committee in charge of the presentation was composed entirely of ladies, and that the presentation was made without any formality.

The Oakmont Chamber of Commerce will, in the near future, celebrate Dr. Hamilton's half century of service to his community by the observation of "Hamilton Night."

Dr. Hamilton's fellow members in the Medical Society of the State of Pennsylvania will rejoice in this very practical communal expression of esteem and respect for the type of physician so well typified by him—the faithful family practitioner.

Dr. Frederick R. Greene of Chicago, who has recently made an exhaustive survey of medical organizations in the United States owning their own homes, is authority for the statement that of the twenty-six medical societies which own their own homes, eight are in the State of Pennsylvania.

MAY PRIMARIES

Our 7,600 members are herewith reminded of the approach of the May primaries which will result in the nomination of candidates for the Pennsylvania lower house of the Legislature and half of the upper house. None of the electors in the Commonwealth of Pennsylvania are better qualified than the members of the medical profession to select those who make our laws. We remind our members at this time of the fact that each session of the Legislature brings its full quota of proposed laws that threaten the general good health of the people of Pennsylvania, and at the same time are a menace to the Medical-Practice Act by which we now are governed.

The vote on various public-health measures of the members of previous Legislatures who are now candidates to succeed themselves is always available on request to the Secretary of the State Medical Society.

CANDIDATES FOR THE 1926 HONOR ROLL

On March 20, 1926, this office had received the annual assessment of 5,468 members; on the same day 1925, 5,582; on the same day 1924, 5,233; on the same day 1923, 4,615 members.

The percentage of 1926 dues received at this office March 20 is herewith indicated:

Center	100%	Butler	84%
Clarion	100%	Lycoming	82%
Clearfield	100%	Washington	81%
Clinton	100%	Franklin	80%
Elk	100%	Jefferson	80%
McKean	100%	Bucks	80%
Perry	100%	Lehigh	80%
Sullivan	100%	Luzerne	80%
Union	100%	Northumberland	80%
Warren	100%	Dauphin	79%
Wyoming	100%	Fayette	77%
York	100%	Cambria	76%
Greene	96%	Blair	75%
Susquehanna	95%	Northampton	74%
Mercer	94%	Allegheny	73%
Monroe	93%	Lackawanna	72%
Montgomery	93%	Montour	70%
Adams	92%	Somerset	70%
Berks	90%	Lancaster	67%
Lawrence	90%	Tioga	67%
Lebanon	90%	Jefferson	65%
Columbia	89%	Indiana	63%
Mifflin	89%	Philadelphia	62%
Bradford	86%	Juniata	61%
Huntingdon	86%	Chester	60%
Delaware	85%	Venango	59%
Potter	85%	Cumberland	55%
Schuylkill	85%	Westmoreland	54%

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to March 15:

Allegheny: *Reinstated Members*—Charles E. Schultz, Castle Shannon, George A. Zuck, 902 James St., N. S. Pittsburgh. *Removal*—Raymond A. Wolff from New Kensington to Parnassus (West. Co.).

Beaver: *New Members*—John M. Davis, Darlington; J. Willard Smith, Beaver Falls. *Transfer*—John H. Trumpeter, Beaver, from Allegheny County Society.

Berks: *Resignation*—H. Melvin Allen, Reading; Harry A. Britton, Ithaca, New York.

Blair: *New Member*—Robert H. Wymer, 805-17th St., Altoona. *Death*—Joseph L. Isenberg, Williamsburg (Jeff. Med. Coll. '93), Nov. 17.

Bradford: *Removal*—Philo S. Carpenter from Laquin to New Albany.

Bucks: *Death*—Felix A. Murphy, Doylestown (Jeff. Med. Coll. '01), Feb. 10, aged 49.

Dauphin: *New Members*—Miriam Polk, 238 State St., Harrisburg; William C. Stanley, 112 Market St., Harrisburg.

Erie: Removal—Guy E. Dutter from N. Girard to Kane (McKean Co.).

Fayette: *Removal*—William H. Robbins from Vanderbilt to 710 Walnut St., Martins Ferry, Ohio.

Huntingdon: *Removal*—Frank L. Richards from Huntingdon to 47 W. 32nd St., New York City.

Indiana: *New Members*—Maurice P. Charnock, 1502 Riverside Drive, Trenton, N. J.; Edgar Lee Hughes, Commodore; A. B. Danisawich, Homer City.

Jefferson: *Reinstated Member*—Arthur C. McKinley, Corsica. *Death*—Irvin R. Mohney, Brookville (Jeff. Med. Coll. '05), Feb. 11, aged 51.

Lackawanna: *New Member*—Harold B. Cooper, 633 E. Market St., Scranton.

Lancaster: *New Member*—Leedom Sharp, Intercourse. *Reinstated Member*—J. L. Mowery, Strasburg.

Lawrence: *Reinstated Member*—Emma H. Worrall, New Wilmington. *New Members*—M. A. Swaney, Wampum; Z. N. Stutz, New Castle.

Lehigh: *New Member*—Ralph H. Henry, 102 N. 10th St., Allentown.

Luzerne: *New Members*—Michael Yankowicz, 135 So. Tamaqua St., McAdoo; Lewis S. Reese, Kingston. *Reinstated Member*—George H. McConnon, Savoy Bldg., Wilkes-Barre. *Removal*—Felix J. Krych from Kingston to Forty Fort.

Lebanon: *New Members*—Joseph Crowley, Lebanon; Irwin Lape, Lebanon.

Mercer: *Reinstated Member*—Beriah A. Montgomery, Grove City.

Montgomery: *Death*—Alfred H. Read, Norristown (Jeff. Med. Coll. '97), Feb. 10, aged 65.

Monroe: *New Member*—Paul H. Shiffer, Stroudsburg.

Northampton: *New Member*—Edward C. Oestereicher, Bethlehem.

Perry: *Removal*—Henry O. Orris from Newport to 1600 Laurel Ave., Minneapolis, Minn.

Philadelphia: *New Members*—Henry Barenblatt, 1326 S. 5th St.; Lawrence S. Carey, 1 Cedar Lane, Highland Park; Alpha R. Carpenter, 1723 Fairmount Ave.; Barbara Churchill, 5805 Brush Road; Joseph C. Donnelly, 5501 Chester Ave.; Albert F. Garton, 228 N. 63rd St.; Joseph N. Grossman, 6050 N. 19th St.; John C. Hartman, 6002 Green St., Germantown; Ford A. Miller, 324 S. 16th St.; William H. Morrison, Jr., 8021 Frankford Ave.; Sophie Ostrow, 6045 Washington Ave.; John R. Paul, 1941 Panama St.; Burach Rachilis, 4033 Girard Ave.; Elizabeth A. Ryder, 2049 Chestnut St., Philadelphia. *Transfer*—Joel D. Brown, Room B Broad Street Station, Philadelphia, from Montgomery County Society; Anne Gray Taylor, 6118 Germantown Ave., from Allegheny County Society. *Removal*—Joseph B. Nylin from Philadelphia to Neshaminy Farms, Newtown (Bucks Co.).

Schuylkill: *New Members*—Charles H. Knauer, Schuylkill Haven; Charles E. Stevenson, Port Carbon; John R. Jeppson, Ashland. *Transfer*—Roland R. Keiser, Mahanoy City, from Northumberland County Society. *Deaths*—John J. Moore of Pottsville (Med. Chirurg. Coll., Phila. '05), Dec. 31, aged 44; Edward J. McGeehan, McAdoo (Univ. of Penna. '92), recently.

Washington: *New Member*—Arthur W. Hopper, Washington Trust Bldg., Washington. *Removal*—Charles J. D. McVeigh from Marianna to Carmichaels (Greene Co.).

Warren: *New Members*—George I. Ireland, Drawer B; Hugh R. Robertson, 418 Third Ave., Warren.

Westmoreland: *New Member*—Jack H. Hamill, Latrobe. *Death*—A. Bryan Krebs, Bolivar (Cincinnati Coll. Med. & Surg. '86), Feb. 10, aged 63.

York: *Death*—Alexander C. Wentz, Hanover (Univ. of Penna. '82), Feb. 15, aged 71.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since February 15. Figures in the first column indicate county society numbers; second column, State Society numbers.

1925					
Feb.	20	Luzerne	271	7538	$5.00
1926					
Feb.	15	Blair	1-28	3205-3232	$140.00
		Mercer	51	3233	5.00
	17	Fayette	66-80	3234-3248	75.00
		Warren	1-45	3249-3293	225.00
	18	McKean	1-20	3294-3313	100.00
		Lycoming	73-85	3314-3326	65.00
		Bradford	20-23	3327-3330	20.00
		Indiana	1-19	3331-3349	95.00
	20	Luzerne	81-123	3350-3392	215.00
		Delaware	68-77	3393-3402	50.00
		Mercer	52	3403	5.00
		Lehigh	29-45, 47-72	3404-3426	115.00
	23	Northampton	61-72	3427-3438	60.00
		Clearfield	28-41	3439-3452	70.00
		Armstrong	20-33	3453-3466	70.00
		Potter	11	3467	5.00
		Erie	40-55	3468-3483	80.00
	24	Montour	15	3484	5.00
		Chester	1-32	3485-3516	160.00
	27	Luzerne	124-175	3517-3568	260.00
		York	90-103	3569-3582	70.00
		Huntingdon	18-24	3583-3589	35.00
		Erie	56-58	3590-3592	15.00
		Sullivan	1-6	3593-3598	30.00
		Lebanon	1-20	3599-3618	100.00
		Potter	12	3619	5.00
		Venango	27-28	3620-3621	10.00
		Franklin	31-38	3622-3629	40.00
March	2	Dauphin	43-102	3630-3689	300.00
		Adams	24	3690	5.00
		Columbia	29	3691	5.00
		Clearfield	42-51	3692-3701	50.00
	3	Lebanon	22-33	3702-3713	60.00
	4	Schuylkill	76-103	3714-3741	140.00
		Delaware	78-81	3742-3745	20.00
	5	Mercer	53	3746	5.00
		Northumberland	43-48	3747-3752	30.00
		Mifflin	20-24	3753-3757	25.00
	6	Lancaster	30-76	3758-3804	235.00
	8	Lawrence	35-36, 38-52	3805-3821	85.00
		Butler	33-40	3822-3829	40.00
		Venango	29	3830	5.00
		Dauphin	103-108	3831-3836	30.00
		Philadelphia	1002-1101	3837-4136	1,500.00
	9	Columbia	30-31	4137-4138	10.00
		York	104-115	4139-4150	60.00
		Clearfield	52-55	4151-4154	20.00
		Lackawanna	1-58	4155-4212	290.00
		Cambria	101-115	4213-4227	75.00
		Montgomery	120-137	4228-4245	90.00
		Clinton	1-2, 4-21	4246-4265	100.00
		Lancaster	77-90	4266-4279	70.00

March 9	Westmoreland	65-86	4280-4301	$110.00
10	Washington	45-101	4302-4358	285.00
	Schuylkill	104-113	4359-4368	50.00
	Indiana	20-57	4369-4386	90.00
	Perry	8-13	4387-4392	30.00
	Potter	13	4393	5.00
	Mercer	54	4394	5.00
	Delaware	82-83	4395-4396	10.00
11	Butler	41-43	4397-4399	15.00
	Elk	21	4400	5.00
	Dauphin	109-113	4401-4405	25.00
	Jefferson	1, 3-35	4406-4439	170.00
	Cumberland	15-20	4440-4445	30.00
	Washington	102-104	4446-4448	15.00
	Bucks	35-51	4449-4465	85.00
	Northampton	73-84	4466-4477	60.00
	Mercer	55	4478	5.00
	Berks	101-119	4479-4497	95.00
12	Blair	29-74	4498-4543	230.00
	Lackawanna	59-78, 80-97	4544-4581	90.00
	Clearfield	56-62	4582-4588	35.00
	Lycoming	86-92	4589-4595	35.00
	Allegheny	504-941	4596-5033	2,190.00
13	Beaver	10-41	5034-5065	160.00
	Erie	53-61	5066-5074	45.00
	Dauphin	114-120	5075-5081	35.00
	Mercer	56-59	5082-5085	20.00
	Luzerne	176-209	5086-5119	170.00
	Delaware	84-85	5120-5121	10.00
	Fayette	81-98	5122-5139	90.00
15	Lehigh	53-88	5140-5175	180.00
	Bucks	52-53	5176-5177	10.00
	Cambria	116-122	5178-5184	35.00
	Mercer	60-61	5185-5186	10.00
	Bradford	24-27	5187-5190	20.00
	Monroe	1-14	5191-5204	70.00
	Montgomery	138-140	5205-5207	15.00
	Butler	44-45	5208-5209	10.00
16	Huntingdon	25-29	5210-5214	25.00
	Mifflin	25	5215	5.00
	Union	15	5216	5.00
	Bedford	1-6	5217-5222	30.00
	Perry	14	5223	5.00
	Somerset	25-33	5224-5232	45.00
	Fayette	99-104	5233-5238	30.00
	Delaware	86-87	5239-5240	10.00
17	Schuylkill	114-121	5241-5248	40.00
	Venango	30-32	5249-5251	15.00
	Lebanon	34	5252	5.00
	Washington	105-112	5253-5260	40.00

THE MEDICAL SECTION PROGRAM

The program for the meetings in the Medical Section of the State Society this year at Philadelphia presents many phases of unusual interest, and it is certain that your attendance at the meetings will not be regretted.

There has been an alteration in the arrangement of the program for this year. One of the sessions is to be given over entirely to medical clinics, to be held in the Philadelphia General Hospital by members of the profession in Philadelphia. A limited time is to be given to each subject presented, and on this account a considerable number of medical topics will be discussed, as the whole afternoon is to be given over to this clinic. The Committee on Scientific Work feels that this departure from our usual custom will be welcomed by the Society.

Following the lead made last year at Harrisburg with reference to the arrangement of the program into symposiums, it was considered advisable to repeat this type of meeting. The subjects under discussion this year will include bronchial asthma, the relation of bacteriological observations to clinical medicine, an analysis of some of the newer and important therapeutic procedures, and a critical review of encephalitis, of its pathological and clinical aspects since its onset in 1918. One period is also to be devoted to nine 5-minute case reports. These reports have been very well received in the past, and the same type is to be presented next fall.

It is our impression that the majority of the members of the Medical Section desired some discussion of the papers, and for this reason a period of fifteen minutes is set aside for each symposium. This, obviously, cuts down to a certain extent the time of the papers, but not to such an extent as in any way to interfere with the presentation of the subject.

The Medical Section is extremely fortunate in being able to announce that Professor Howard T. Karsner, of Western Reserve University, Cleveland, is to give one of the addresses, and Dr. F. W. Peabody, of Harvard University, Boston, the other. The former will speak on a general subject in pathology, while the latter is to take up some phases of pernicious anemia.

With a program of such interest, we feel that the time spent at the Medical Section will be of great value, and well worth the trip.

HOTELS FOR THE PHILADELPHIA SESSION

Reservations for the Philadelphia session of the Medical Society of the State of Pennsylvania may be made direct with the following hotels, or through the good offices of the chairman of the Committee on Hotels, Dr. Frederick S. Baldi, Philadelphia County Medical Society Building, S. E. Corner 21st and Spruce Streets, Philadelphia, Pa. Reservations should be made promptly, as there will be an unusual demand for rooms owing to the Sesqui-Centennial.

Ritz-Carlton, Broad and Walnut Streets: Double room with twin beds, with bath—$15 per day.

Bellevue-Stratford (Headquarters for meeting), Broad and Walnut Streets: Single room without bath—$4 to $6 per day. Rooms with bath—$5 and upwards. Additional charge of $2 for each extra person in room.

Hotel Adelphia, Thirteenth and Chestnut Streets: Single rooms—$5. Double rooms with two beds and bath—$10. Rooms with three beds—$12.

Hotel Walton, Broad and Locust Streets: Room without bath but with hot and cold running water (one or two persons)—$8 per day. Room with bath (one or two persons)—$10 per day.

Benjamin Franklin, Ninth and Chestnut Streets: $7, $8, and $10 per day for one or more persons.

Hotel Sylvania, Locust and Juniper Streets: $10, $12, and $15 per day for one or two persons.

Hotel Stenton, Broad and Spruce Streets: $6 to $14 per day for two or more persons.

Rittenhouse Hotel, Chestnut above Twenty-second Street: $4 per day per person, suites of rooms, single beds in each room, with private bath accommodating four persons. Other rooms with bath—$5 per day per person.

Windsor Hotel, Juniper and Filbert Streets: Rooms with running water—$3 and $3.50 per day per person. Rooms with bath—$4 per day per person.

Hotel Vendig, Thirteenth and Filbert Streets: Single rooms with bath—$3.50 per day and up. Double rooms with bath—$6 per day and up.

Hotel St. James, Walnut and Thirteenth Streets: Double rooms without bath—$5 per day and up. Double rooms with running water—$8 per day and up. Double rooms with bath—$10 per day and up.

Green's Hotel, Eighth and Chestnut Streets: Single room with running water—$2 per day and up. Single room with bath—$3.50 per day and up. Double room with running water—$3.50 per day and up. Double room with bath—$5 per day and up.

All the foregoing hotels are very centrally located.

The following hotels are a few minutes' trolley ride from the center of the city:

Hotel Pennsylvania, Thirty-ninth and Chestnut Streets: Single rooms with running water, one person—$2.50 and $3 per day. Double rooms with running water, two persons—$4 and $5 per day. Single room, with private bath, one person—$3.50 to $6 per day. Double room, with private bath, two persons—$5 to $7 per day.

Hotel Lorain, Broad and Fairmount Avenue: Rooms accommodating two persons, with running water, $6 per day. Rooms accommodating three persons—$9 per day. Rooms with bath, accommodating two persons—$9 per day; three persons—$12 per day.

Majestic Hotel, Broad Street and Girard Avenue: Rooms with running water—$3 to $6 per day. Rooms with bath—$7 to $15 per day.

ENTERTAINMENT FOR THE STATE SOCIETY

The Committee on Arrangements for the Philadelphia session wishes to announce the following schedule of entertainments for the members of the Medical Society of the State of Pennsylvania in attendance at the session next October. The schedule may possibly be slightly amended later to conform to any unforeseen change in conditions.

All participating physicians and their friends are assured that the Committee will leave nothing undone to secure for their guests a thoroughly enjoyable visit and the utmost of pleasure. The schedule follows:

Monday evening—Theater party for House of Delegates.

Tuesday afternoon—Reception for women at home of Dr. W. Wayne Babcock.

Tuesday evening—Smoker for men; theater party for women.

Wednesday afternoon—Trip to Navy Yard, with luncheon, for women.

Wednesday evening—President's Reception and Ball (a State Society function).

Thursday afternoon—Trip through park and suburbs for women.

Thursday evening—Reception at home of Philadelphia County Medical Society.

Every day—Noonday luncheons at home of County Society for men.

Every day—Golf at the various golf clubs in and around the city.

County Society Reports

ALLEGHENY—MARCH

Etiology of Nephritis: R. R. Snowden, M.D.—Nephritis is the commonly accepted clinical term for any acute or chronic inflammatory or degenerative process within the kidney. It can be caused by:

(1) Chemical irritation, which may be sudden and overwhelming, producing an acute fatal result, or smaller in amount and continued over a long period, producing a chronic effect. Arsenic, mercury, and lead command special attention. The effect is more serious when the kidney is already damaged. Mercury in any form should be given cautiously. Most of the heavy metals and diuretics irritate the kidneys, and should be carefully given in any case of nephritis.

(2) Bacterial toxins. There is a group of substances, especially the streptococcus, which has a special affinity for the kidneys. Foci of infection in teeth, tonsils, and sinuses are potential kidney irritants. Scarlet fever may also be responsible. Early recognition is demanded in all such cases to avoid a subsequent nephritis.

(3) Vascular disturbances, of which arteriosclerosis is best recognized. In the same class may be placed cases resulting from a chronic passive congestion in cardiac decompensation.

(4) Functional strain, attention being drawn to overwork. Recent experimental work by Allen, Marsh, and Newburgh proves conclusively that excessive functional demands upon a normal kidney will cause renal damage, and that, with a reduction of functional ability through the inhibition or loss of one kidney, the normal, ordinary functional demands become relatively excessive, and produce renal damage.

The practical application of this principle demands that excessive meat, salt, or water intake shall be reduced; that, with nephritis present, ordinary functional demands should be reduced; and that in nephritis, chemical toxins, food seasonings, and drugs with irritative effects should be eliminated as much as possible.

Chronic Indigestion; Etiology, Diagnosis, and Treatment: John M. Flude, M.D.—Chronic constipation is divided into two groups: that of intragastric origin, and that of extragastric origin.

Chronic gastric disorders are explained by ptosis and bacterial infection. The causes of ptosis are both congenital and acquired. The latter may be due to habits of posture, constriction at the waist line, loss of weight, and lack of proper exercise. It is difficult to determine the etiology of bacterial infection, but whether from the upper gastro-intestinal tract, an ascending colon-bacillus infection, a blood or a lymph-stream infection, the result is the same. The diagnosis must be differentiated from gastric ulcer, carcinoma, duodenal ulcer, and gall stones. A careful history and physical exam-

ination is required, with special attention to the primary source of infection, and evaluation of the abdominal status. Laboratory diagnosis is most important, as well as an x-ray examination, with a stomach-function determination.

The diagnostic features usually comprise: chronic bacterial infection of the nasopharynx, oral cavity, teeth, duodenum, and biliary tract; many secondary intragastric conditions; chronic duodenitis, with chronic functional disturbances of the gall bladder and ducts; and chronic colitis of varying degrees. Treatment consists of removal of foci of infection; autogenous vaccine; properly fitting abdominal support; proper exercise; restriction of fried and highly seasoned foods, with small frequent feedings; colonic irrigation daily; and duodenal drainage.

Turning Mental Symptoms to Account in General Medicine: C. C. Wholey, M.D.—Mental symptoms are of frequent occurrence, and may arise in any disease process. During the past, the general physician has not trusted his own judgment in diagnosing mental phenomena, because the close relationship between body and mental symptoms has only recently been emphasized. Profitable use can be made of the physical symptoms, resulting in the proper and practical handling of these patients. Only the common and most important of these conditions can be discussed here, such as infection resulting in exhaustion, early paresis, dementia precox, and anxiety neuroses.

Infection exhaustion is a psychosis following pneumonia, typhoid fever, intestinal toxemias, uremia, thyrotoxicosis, and diabetes. These patients become confused, and have hallucinations. The onset should be carefully watched, and its appearance is a death signal, calling for immediate and drastic therapeutic procedures. Under such circumstances there is a clogging of the lymph spaces of the brain, causing delirium and collapse. Elimination by drastic catharsis and thorough flushing of the system with fluids is indicated. A delay of a few hours may mean the difference between recovery or fatality. These conditions are common in general medicine, and a close watch should be kept in order to detect them.

General paresis is another serious condition. Early in its development it may simulate hysteria or neurasthenia. The real mental deterioration present in paresis is a valuable differential aid. The outstanding feature in a paretic is his change of character. In the final diagnosis, the Argyll Robertson pupil, the absence or exaggeration or lack of symmetry in the knee or elbow jerks, the various muscular tremors shown in the voice, in the muscles of the face, and in the gait, confirmed by serologic blood and spinal-fluid examinations establish the diagnosis.

Dementia precox reveals certain peculiar features which serve to differentiate it. The patients are usually young, showing depressive or excited stages, without evidence of infection or other physical causes. Their explanations of these are illogical, childish, far-fetched, and queer, and are elicited with difficulty. Frequent apathy and stolidity in spite of these symptoms, while the patient's feelings are superficial and out of keeping with his complaints, should arouse suspicions of this disease.

An anxiety neurosis presents none of the illogical contradictions of dementia precox. Here, the symptoms fit a familiar underlying pathology. Functional and not organic disturbance is found. The true pathology comes out in the history, which reveals an emotional upheaval or episode as the origin of the bodily symptoms. Again, there may have been a prolonged period of anxiety and distress, due to some intolerable situation. In this disease, emotional factors are frequently bound up with physical symptoms, either as a cause, or as an overreaction to organic lesions already present. An evaluation of the part they play always proves helpful, and in no way negatives or belittles the value of other clinical procedures. It is, in short, merely a matter of looking at the emotional or mental state as one element in the clinical picture.

Since the human organism is a unit, all of its constituent functions—mental and emotional, as well as digestive, circulatory, chemical, and muscular—must be reckoned with in disease problems, and it is the duty of the psychiatrist to eliminate physical etiology, while the other branches of medicine can profit by covering the mental phases of morbidity in the problems confronting them. L. G. Beinhauer, M.D., Reporter.

DAUPHIN—JANUARY-FEBRUARY

The annual meeting was held in the Harrisburg Academy of Medicine on January 5th, when the following officers were elected for the ensuing year: E. A. Nicodemus, president; Park A. Deckard, vice-president; W. M. Kunkel, secretary-treasurer; G. B. Kunkel, trustee; J. F. Culp, censor; H. F. McGowan, district censor; and J. F. Reed, reporter. Several amendments to the constitution and by-laws were presented, among them one increasing the annual dues to $10.

The retiring president, Dr. G. B. Kunkel, made an address on the subject, "Pain," of which an abstract follows:

Pain is an expression of instability, a lack of coördination or compensation, a signal of warning or of danger, a disturbance either local or general. It is a warning that thorough investigation must be made to find some part which is not working as per schedule.

The skin—a protective organ—is usually the first to respond to pain stimuli and the last to resist treatment. Central irritation may be caused by agents either chemical or molecular, peripheral or central, as well as by pressure. The pressure pain may be the result of a rapid and progressive pressure, as in osteomyelitis or arteriosclerosis, where there is a sudden engorgement, or it may be caused by a slow, steady pressure, as in dental caries or a burn. In a developing growth pain is not a factor, as in a cyst, wen, fatty tumor, and, unfortunately, cancer. In the latter, pain appears only when pressure on some vital part develops. Cancer of the body of the stomach may, thus, be far advanced without pain, while at the end of the organ, obstruction and pain develop early. In cancer of the large bowel, the first evidence is that of obstruction, with at times paroxysmal pain, vomiting, and failure of the bowels to move. Advanced cancer of the breast without pain is frequently discovered accidentally. The painful breast is rarely cancerous.

This demonstrates the value of the periodic health examination. Periodic examination is important also in prevention of organic diseases of the heart, as myocarditis, of which the first warning is angina.

Pain differs as to time, character, radiation, severity, distribution, and location, and all these elements are important, as illustrated by the differential diagnosis of renal colic, obstruction of the bowel, appendicitis, gallbladder disease, perforation, ruptured ectopic gestation, and strangulated cyst. In pelvic disease, such as appendicitis, the time of development of the pain, its location near the navel, its paroxysmal character, and ensuing nausea, local tenderness, fever, and leukocytosis

have one meaning. If the fever develops first, followed by pain, the meaning is altogether different. Sometimes, late in the disease persistent pain develops, due possibly to an inflammatory peritonitis.

Persistent pain may be either inflammatory or paroxysmal. In the latter type, the patient moves about, assuming different attitudes, attempting to get away from it. In the inflammatory type he does not move, and does not wish to be touched. Severe pressure pain is frequently present in perforated ulcer and ruptured appendix or gall-bladder. The pain is usually paroxysmal in gall-bladder, appendiceal, or uterine conditions, while it is persistent in perforation. Pressure pain in peritonitis or peritoneal irritation is usually associated with spasm of the abdominal muscles or rigidity. Spasm denotes that the muscles are under control of the patient. Rigidity denotes lack of control.

The location of the pain is usually at the site of the trouble in inflamed gall-bladder, appendix, pus-tube, or twisted-cyst conditions, while in pylorospasm, adhesions, and locomotor ataxia it is reflex. In kidney colic, the pain radiates from the back to the epigastrium, groin, or inside of the thigh, while in gall-bladder conditions it radiates from the epigastrium to the back and up to the shoulder blade.

The distribution of the pain, the severity, and the locality are usually associated with other symptoms. Exclusion of other conditions is necessary to differentiate the organ at fault and the cause of trouble in the organ affected. The sympathetic and cerebrospinal systems dovetail with each other to give warning and protection. Pain is a life preserver, an advance guard, a signal of distress, and a guide to the doctor as to regained equilibrium.

It cannot be measured. It is difficult to determine when it is exaggerated or assumed, or whether it actually exists at all. A conscientious and exhaustive examination is demanded to differentiate real from exaggerated or assumed pain, and to determine the positive or negative reaction to drugs and other manifestations. Only after the most exhaustive, scientific, and discriminating examination can a conclusion be reached, in order to extend full justice to the patient.

President E. A. Nicodemus presided at the meeting on February 2d. Dr. F. L. Van Sickle transferred his membership from Lackawanna County, and Dr. William C. Sandy, of the State Welfare Department, was elected to membership.

Dr. George B. Kunkel gave a very entertaining description of his recent trip to Alaska, mentioning the fact that there one could avoid the telephone, emphasizing the prevalence of tuberculosis and syphilis, and describing the courtesy of the medical men of that region and their interest in up-to-date medicine.

Josiah F. Reed, M.D., Reporter.

DELAWARE—FEBRUARY

The regular monthly meeting was held in the Chester Hospital, February 18th, at 8:30 p. m.

Dr. William Egbert Robertson, of Philadelphia, addressed the society on "The Cardiovascular-Renal Complex." Dr. Robertson considered the subject from the angle of the general practitioner, outlining simple tests to determine disturbed cardiac and renal function. He stressed a proper mode of living as both a prophylactic and a corrective measure in this complex. The paper was discussed by Dr. A. J. Simpson.

The society elected Dr. Robertson an honorary member.

George L. Armitage, M.D., Reporter.

ELK—FEBRUARY

The society met at 1 p. m., February 11th, at the Elk County General Hospital. Dr. J. E. Madara, of St. Marys, read a paper suggesting activities that the society should take up, such as periodic health examinations, publicity campaigns, better business methods, talks by members of the society before the various clubs, the use of toxin-antitoxin, etc.

Dr. P. O. Hall, of Ridgway, read a paper on "Pleural Effusions," stressing especially the diagnosis. In discussion, Dr. Logan exhibited x-ray films.

The next meeting will be held at St. Marys, March 11th, at the Andrew Kaul Memorial Hospital, when Mr. D. J. Driscoll, an attorney, will address the society.

Samuel G. Logan, M.D., Reporter.

ERIE—MARCH

The Erie County Medical Society met March 2d when Dr. T. Palmer Tredway presented a paper on "Newer Methods in the Treatment of Syphilis." Among definite contraindications to the use of arsphenamin intravenously, may be mentioned cardiovascular syphilis; rheumatic heart, in most cases; chronic nephritis; tuberculosis with associated syphilis; optic atrophy; and disorders of the internal ear.

Mercury cannot be substituted for arsenic in some of the very conditions in which arsenic should not be used. Bismuth apparently may be used with great safety in the treatment of syphilis, even when associated with advanced organic disease. It is also of service in the so-called arsenic-fast cases.

The toxicity of bismuth is usually due to impure bismuth salts, containing a small percentage of arsenic. Bismuth stomatitis, which closely resembles mercurial stomatitis, is the usual manifestation of its toxicity. A gingivitis or bluish pigmentation of the gums or buccal mucosa should be a warning to let up on the bismuth medication, for a time at least. The salts of bismuth have been so purified that stomatitis is rarer now than formerly.

Bismuth is indicated in cases in which arsenic cannot be administered. It is especially valuable, in syphilitic manifestations involving the central nervous system, for relieving pain, such as the lightning pains in tabes.

Tryparsamid is an arsenical drug of the pentavalent series which was developed by Brown & Pierce of the Rockefeller Institute of Research. The theory of its value in neurosyphilis is that the molecule of arsenic is so small that it penetrates the membranes of the body, such as the dura, and in this way reaches deep into the nerve centers, which arsphenamin cannot do. Though the place of tryparsamid in neurosyphilis has not been thoroughly defined, it seems that this product is destined to be of value.

Anna M. Schrade, M.D., Reporter.

LUZERNE—FEBRUARY-MARCH

The regular meeting was held on Feb. 17th, with President P. P. Mayock presiding. The essayist was Dr. Emil Novak, Associate Professor of Gynecology, Johns Hopkins University, who spoke on "The Mechanism and Interpretation of Uterine Bleeding."

Dividing the subject into physiological and pathological bleeding, Dr. Novak sketched the mechanism of menstruation, then continued with pathological bleeding under the heads of anatomical causes and combined causes. Of the anatomical causes, he listed as impor-

tant: laceration, polyp, squamous-cell carcinoma, and adenocarcinoma of the cervix; and adenocarcinoma, polyp, fibroid, and adenomyoma of the fundus. Of the combined causes, he listed pelvic inflammatory disease, especially wtih involvement of the ovaries, hydatidiform mole, chorio-epithelioma, and tubal pregnancy.

As a type of uterine bleeding having no anatomical cause, there is that due to endometrial hyperplasia, which is a distinct entity at all ages, but usually at the two extremes, i. e., puberty and the menopause. It is of great importance in differential diagnosis at the menopausal age. The endometrium has a characteristic appearance under the microscope, and bleeding at the menopause is an indication for curettage in order to differentiate endometrial hyperplasia from carcinoma. This used to be called chronic polypoid endometritis. Radium is of use in controlling the bleeding of endometrial hyperplasia.

The paper was discussed by Drs. Meyers, Long, Kocyan, Drake, L. Edwards, Prevost, and Gibby.

At the meeting of March 3d, Dr. F. J. Bishop, of Scranton, District Councilor, was present to report from the State Society concerning a recent meeting of the Councilors. The discussion would indicate an objection by this county society to the annual registration fee; that it should not be necessary for any one group to raise funds within its own body for the enforcement of a law designed to protect the general public.

The essayist was Dr. H. B. Gibby, who read a paper on "Carcinoma of the Gastro-Intestinal Tract." Emphasis was laid on the Coffey operation for carcinoma of the rectum, and two cases operated upon by this method in one stage were reported. The essay was concluded by an exhibition of lantern slides showing x-ray studies of carcinoma of the gastro-intestinal tract at different levels.

Dr. Mengel: We cannot talk too much about cancer. Cancer of the esophagus is short lived, and the cases hard to deal with. Cancer of the rectum and sigmoid and stomach are slower in development and respond better to operation. In carcinoma of the large intestine, the danger of sepsis is extremely great, and the way to treat such cases is with the two- or three-stage operation. It is surprising how one will survive an extensive operation on the stomach. In many cases, convalescence after resection of the stomach is far easier than after an ordinary intestinal anastamosis.

Dr. Ahlborn: I should like to mention the cases that look like carcinoma, yet get well and seem to be cures. These growths are often benign in type and only appear malignant. They get well after a serious operation, and change the aspect of the case.

Dr. Gibby: The cases where an exploratory operation is done and the stomach not touched are those that come too late and where the x-ray is not definite. I am chary about removing a section for examination where the entire growth cannot be removed, as a lot of harm may thus be done.

At the meeting on the 17th, the by-laws were changed so that the nomination of officers was delegated to the ex-presidents of the society, reserving to the members the right of open nomination from the floor in addition to those nominated by th committee.

The board of directors has voted to increase the endowment fund of the library by subscriptions within the society, and the society has approved the suggestion to name the library the Lewis Harlow Taylor Library in recognition of Dr. Taylor's untiring and individual efforts in its behalf.

Lewis T. Buckman, M.D., Reporter.

LYCOMING—FEBRUARY

The stated meeting was held on the 12th, at Williamsport. President George C. Davis presided.

The speaker of the day was Dr. D. C. McKenney, Professor of Proctology of the University of Buffalo, and president of the American Proctological Society. The address was illustrated with stereopticon slides on anorectal infections. Dr. McKenney emphasized the fact that a certain portion of patients coming to a physician's office have rectal conditions, which, if treated early, will prevent future trouble. These patients are real sufferers. In speaking of foreign bodies that were found in the rectum, he mentioned fish scale, fishbone, splinters of bone, chicken rib, apple seeds, pieces of enamel and plating, beauty pin, cucumber seed, apple core, grape seed. He discussed injury to the rectum, cryptitis or papillitis, superficial ulceration, abscesses and fistulas of submucous, subcutaneous, or submucocutaneous origin. The symptoms are: a sense of uneasiness, of crawling, burning, sharp lancinating pains, purulent discharge causing pruritis, and later, hypertrophy of valves, with more pain, slipping of valves into sphincter, and incomplete defecation.

The method of examination and the location of inflammation and ulceration was illustrated. The various forms and locations of abscesses were shown; viz., hemorrhoids, horseshoe fistula, and stricture of rectum; also the method of treating the various conditions by free drainage and packing with gauze.

Conclusions.—(1) Infection is preceded by injury. (2) The earliest infection is usually cryptitis and papillitis. (3) Fissure and ulcer are indications of other trouble. (4) Abscesses occur in two main locations. (5) Fistula and stricture follow infection in the form of abscess. All uncorrected lesions may become foci for severe infection, and can easily be diagnosed and cured early if examination is made.

The following case reports were presented:

Dr. W. E. Turner reported the case of a woman, aged 47, with an unusually high basal metabolic rate (plus 134), and apparently a direct relation between acute tonsillitis and an increase in severity of the toxic symptoms, together with the unusual loss of 110 pounds in weight (weight in health, 220 pounds).

Dr. George L. Schneider reported the case of a woman 63 years of age, who had become a morphin habitué on account of failing to obtain relief otherwise from an agonizing epigastric pain. After consulting several physicians, she came under the care of Dr. Schneider. In making a routine study, a Wassermann was done, with a result of plus 4. There has been no return of pain since the first neosalvarsan treatment was given.

A testimonial dinner was tendered Dr. McKenney, and after the dinner he exhibited a set of slides of a Spanish bull fight which he witnessed while on a trip abroad.

The society lost two members by death the past month: Charles Murray Adams, who died of pneumonia, and Charles J. Cummings, who died of apoplexy.

W. F. Kunkle, M.D., Reporter.

MERCER—FEBRUARY

The members of the society held a medical and surgical clinic at the Buhl Hospital, Sharon, on Thursday morning, February 11th.

At one o'clock a buffet luncheon was served at the Hospital, followed by a business meeting.

Dr. Samuel J. Dickey, the county medical director, and the committee appointed by the Mercer County Medical Society, assisted by members of the society, have been administering toxin-antitoxin, furnished free by the State Department of Health, to the school children of the county. Farrell has 3,500 school children, and 800 had been given the treatment two years ago by Dr. Breene and others. In this present campaign, 2,000 were treated, making a total of 2,800, or 80%. In Sharon there are between 4,500 and 4,600 school children. Fifty per cent were inoculated one week, and more will be treated later.

Edith MacBride, M.D., Reporter.

PHILADELPHIA

February 10, 1926

Symposium on Pneumonia

Dr. Russell L. Cecil, New York (by invitation): Recent Advances in the Specific Therapy of Lobar Pneumonia.—In any infection there are two phases: the first, local; the second, general (a bacteriemia or sepsis), and it is this latter phase which makes the infection dangerous. This is true of lobar pneumonia. While local, it is mild, but when a pneumococcic septicemia develops, it becomes serious. To prevent this sepsis is the goal of specific therapy.

Sera are of two varieties: the antitoxins, as in scarlet fever, diphtheria, and tetanus; and the antibacterials, such as are employed in meningitis and pneumonia. Pneumococcus immunity is based upon the development of protective bodies in the serum of the patient at the time of the crisis. Pneumococci are present in the blood in a high percentage of cases which die, 66 out of 84 deaths in a series of 107 cases showing positive blood cultures. With the administration of serum the temperature falls, since a bacteriemia cannot coexist with protective substances.

The agents now used to achieve this balance of protective substances and bacteria are three: (1) Type-I serum, made at the Rockefeller Foundation, applicable to Type I only and frequently causing anaphylaxis; (2) Huntoon's antibody serum, which is polyvalent and does not produce anaphylaxis; (3) Felton's concentrated antipneumococcic serum, which is more concentrated, but which on intravenous injection may produce a chill and rise of temperature.

Type I yields the most brilliant results of the three, the death rate being lowered from twenty or twenty-five to eight or nine per cent. In Type-II cases, Huntoon's antibody solution, given early and in large doses, checks the pneumonia and prevents the septicemia to which Type II is particularly prone. Type III occurs usually in middle-aged or old people, among whom the death rate is high, and all agents are ineffective. Type IV is a mingling of many strains, and any results obtained may be ascribed to a foreign-protein reaction.

The procedure in giving specific therapy is: (1) typing of every case; (2) immediate intravenous injection of Huntoon's antibody solution, repeated in six or eight hours; (3) when the report of the sputum is received, increased dosages of antibody solution at frequent intervals, especially in type II (50-100 c.c.). If the organisms are type III, specific therapy is discontinued. In type IV, if the patient has improved under the first injections, continue this therapeusis. Typing is essential, and the diagnosis should not be deferred until the frank signs appear. A chill, fever, pain in the side, and sputum are sufficient signs. A septic pneumonia usually means death; if the blood is sterile, recovery is the rule. It is easier to prevent septicemia than to check it after its development. Large doses of antibody solution are better than small, but little is better than none. It is preferable to avoid the anaphylactic reaction, and this can be done with the use of Huntoon's serum.

Dr. S. Solis-Cohen: A Definite Treatment of Pneumonia.—By the term "definite treatment" we do not mean a specific treatment, nor one which will revive the dead. It is not quinin, it does not cure nephritis, lung abscess, arteriosclerosis, chronic alcoholism, myocardial degeneration, etc., which kill so many pneumonia patients. There are three guides to this treatment: the ratio of systolic blood pressure to pulse rate (Gibson's phenomenon); the ratio between diastolic pressure and the respiratory rate (the author's phenomenon); and the temperature. The fall of systolic pressure may be overcome by the use of pituitrin; the rise of respirations and the lessening of diastolic pressure may be accomplished by the intramuscular injection of digitalis; the temperature may be lowered through neutralization of the pneumonia poisons by quinin dihydrobromid. Digitalization of pneumonia cases with five minims of tincture of digitalis t.i.d. is routine, and large doses of quinin are well tolerated by these patients, as in the example cited of a case given 21 gm. of quinin in four days, either intramuscularly or intravenously, without cinchonism. The definite treatment is then P-D-Q; pituitrin in dosage of 1 ampule of the strongest preparation; digitalis in dosage of 1 c.c. of a potent preparation; and quinin to the point of saturation, as indicated by the fall of temperature to or below normal. The use of this definite treatment does not preclude any additional drug, and perhaps there may be a synergistic action between quinin and antibody serum. Diathermy is legitimate. Whatever the treatment, it must be instituted promptly and in sufficient dose. If quinin is used, not less than 25 gr. of the dihydrobromid should be given intravenously.

Statistics in pneumonia are unreliable. In three different hospitals mortality figures ran 51%, 20.7%, and 12.5%. Time is a vital factor, and the character of the patient should be given careful consideration. Deaths are commonly due to chronic myocarditis, alcoholism, nephritis, arteriosclerosis, or chronic endocarditis.

The definite, rather than the expectant treatment should be employed, for the late cases can be made no worse, and the early cases are improved. If, after a combination treatment, recovery occurs, while we may not be able to tell which drug effected the cure, yet we have the cure. The high percentage of mortality will persist until the etiology and pathology are solved, and a more potent bacteriologic specific is found. Hygienic, dietetic, and therapeutic measures must all be taken. For edema of the lung, eight to sixteen ounces of blood should be promptly drawn, following an injection of not less than 1/25 gr. of atropin sulphate.

Dr. William Egbert Robertson: The General Treatment of Pneumonia.—The modern concept of pneumonia holds that it is a group of disease entities. Though long believed that one attack predisposes to another, repeated attacks are usually ascribable to as many types. While an immune serum can be produced which will be a protection against a virulent infection, a person inoculated may develop pneumonia of another type. The incidence of and mortality from lobar pneumonia have remained unchanged for one hundred years.

Since the general practitioner treats a majority of these cases at home, it is impracticable to type every case, and specific serum, if it is to be used, should be employed before a bacteriologic report could be ob-

tained. The first need is careful study and diagnosis, with especial care of the nasal passages, cleansing them with alkaline antiseptics and oil, and making prolonged application of organic silver salts on pledgets of cotton. The sthenic patient should be kept in the open air, with venesection to 200 or 300 c.c. Restraint is needed for the delirious, and morphin in small doses for insomnia. For tympany, turpentine stupes, pituitrin, and enemata are called for, and care must be taken to maintain function of bladder and bowel. The patient should be kept quiet, with no visitors.

Prognosis is influenced by antecedent renal and cardiac involvement. The pushing of alkalis is unwarranted, but digitalization with a single dose of ½ oz. the first day is advisable. Atropin sulphate in doses from 1/75 to 1/50 is helpful, and quinin may be of benefit. The food should not be restricted to liquids. Milk and egg and whiskey are good, and alcohol for those addicted to its use, though in uncomplicated cases it is unnecessary. If pleurisy is suspected, exploratory puncture should be made.

Dr. M. Benham Snow, New York (by invitation): The Treatment of Pneumonia by Diathermy and Reflected Light.—Diathermy is as it indicates, a "heating through." Through the ages heat has been used in the form of poultices, stupes, and light. Heat from light affects tissues as far as it penetrates, and therefore radiant light is an invaluable measure. For instance, in the case of an aged man suffering from pneumonia, with pulse irregular, temperature high, and delirious, the incandescent light was used. There was an immediate change, with profuse perspiration, ceasing of the delirium, and a quickly ensuing crisis. The high frequency current heats the tissues without causing any electrolytic process, and the dosage is judged by skin toleration. Pyogenic bacteria grow especially well in a low temperature, that most favorable to pneumococci being 99.5° F., with a range of proliferation running from 72° to 106° F. Possibly, then, it is through the raising of the body temperature in fever that the crisis is brought about. Skin toleration will allow a temperature of 106° F., though 115° may be passed without damage.

Pushed in the first stage of pneumonia, diathermy will arrest the process, and acute bronchitis is usually relieved in one one-hour treatment. Pleurisy pain is averted with the first treatment. In advanced cases, it is necessary to place the electrodes so that the current will not pass through the heart, since by stimulation of the deep centers the heart may be affected. Diathermy was first used in 1913, and later by Price in 1916, who stated that if used during the stage of engorgement, prompt subjective and objective relief ensued, and the mortality was diminished. Cases so treated usually end by lysis. Diathermy should be used as a synergist. It is not impracticable.

Discussion was opened by *Dr. Howard D. Geisler,* who said that biological methods, especially with Huntoon's serum, bring remarkable results at times, but he questions whether part of the effect, at least, is not due to some remaining trace of bacterial protein. With the use of quinin, he found that the patients who died suffered a much wilder delirium. Therefore, he discontinued using this drug. Aspirin and phenacetin are inadvisable. He doubts that the lung toxin, mentioned by Dr. Solis-Cohen among the toxins of pneumonia, exists in the living body, but if there are toxins other than those produced by the pneumococcus, sufficient antibodies must be formed to neutralize them all. He cited one patient who had sixteen attacks of pneumonia. Morphin is never harmful in the ordinary dose, hence the patient should not be allowed to suffer. Early digitalization is wise.

Dr. Truman G. Schnabel said that pneumonia is a disease with variable mortality, dependent on a great number of factors. In the diseases in which other sera are employed, the patients are usually young children, and the reaction is more forceful. Whatever method will achieve sterilization of the blood stream, whether bacteriologic or chemotherapeutic, that should be used. Statistics in pneumonia are not as impressive as case reports. He does not digitalize, since digitalis is of use only in auricular fibrillation, a condition which occurred only three times in a series of 600 cases.

Dr. Huntoon stressed the importance of the time factor, since bacteria double every twenty minutes under favorable conditions, and he agreed with Dr. Solis-Cohen when he said "don't fool with piddling doses."

Dr. Cecil believes that quinin, given early, renders the blood septicidal, but thinks diathermy, with its elaborate apparatus, impracticable.

Dr. Solis-Cohen said that quinin, while not a specific, if given early, will abort a pneumonia. He has given as much as 150 gr. of quinin in 24 hours, without cinchonism. Cocain, caffein, or adrenalin may be used instead of or synergistic with pituitrin. Animal experiments are not a reliable indication of the effect of drugs on the human. The object of definite therapy is to imitate nature, except that there is an attempt to avert a crisis. The fastigium and the crisis are the danger times.

Dr. Robertson added that oxygen, to be beneficial, must be given under pressure.

Dr. Snow said that there is little variable resistance in the body, and emphasized the fact that all cases treated by diathermy end by a lysis, which begins with the first treatment.

February 24, 1926

The President, Dr. Moses Behrend, in the chair.

Symposium on Newer Therapeutic Remedies

Dr. Thomas C. Stellwagen: Pregl's Iodin Solution in the Treatment of Arthritis.—This solution was first brought to his attention two and a half years ago, when in a severe case of gonorrheal arthritis all other remedies had failed, and 25 c.c. of Pregl's solution was given intravenously, followed by doses of 50 and 100 c.c. The influence on the pain and the immediate improvement were so marked that the patient was soon able to return to work. Since the seminal vesicles are the focus in these cases, he injected Pregl's iodin solution through the rectal mucosa with very good results. One severe case of three weeks' standing walked after the second injection, and was well after the third. No untoward effects have followed this administration.

Whether this solution is useful in chronic cases is doubtful. Probably it is of use in chronic involvement of the prostate and seminal vesicles. Two cases of epididymitis followed the injections, but none went on to abscess.

Castor-oil and soapsuds enemas are the preparation for the rectal injections. Two to three c.c. of the solution is placed in the vesicles. Latterly, the Doctor has used the combined intravenous and intraseminal injections with advantage. This drug will prevent an acute exacerbation of a chronic condition, and it has been found beneficial in general arthritis cases. The concentrated solution is best.

Dr. Myer Solis-Cohen: Some of the Causes of Failure of Specific Vaccine Therapy and their Cor-

rection.—When bacteria persist in the body, and especially in the upper respiratory tract, despite all other measures, specific therapy is indicated. Frequently, infecting organisms remain after removal of the tonsils, and infection occurs because the patient lacks antibodies. The proper administration of specific vaccine is therefore essential to the removal of infection after operation—after the diseased tissue has been excised or the infected cavities drained. Preliminary use of vaccine may make for a better preoperative preparation. A permanent result cannot be attained in the presence of the focus of infection unless that focus is secondary.

In preparing the vaccine, all infecting organisms must be included, and the rhinopharynx must not be overlooked in culturing. The organisms thus grown on Loeffler's medium are then regrown in the patient's serum, with the result that the ones which are found most abundantly, that is, against which there have been in the serum no antibodies, are the ones desired for vaccine. A stock vaccine may not contain the infecting organism, or may contain organisms of a different strain. The dose must be properly regulated by the amount of reaction, the first dose usually being 50,000,000 killed organisms. The interval between doses is usually five days, and a second course may be needed.

Dr. Harry Lowenberg: Mercurochrome in the Treatment of Infections in Children.—Used in doses of 3 to 7 mgm. per kilogram of body weight, Dr. Lowenberg has had one fatal result with mercurochrome—this after an intraspinous injection in a very sick patient with meningitis. He has used it in cases of endopericarditis with effusion, osteomyelitis, arthritis, streptococcic peritonitis, epidural spinal abscess, gonorrheal arthritis, empyema, and gonorrheal vaginitis. Without the drug the results are the same. The usefulness of this agent remains to be proven, and this should be done through committees of competent men in the universities, to whom the claims of cures could be brought. It is time that the original workers publish "What is wrong with mercurochrome."

Dr. John A. McGlinn: Nonspecific Proteins in the Treatment of Pelvic Inflammatory Diseases.—During the acute stages of pelvic or abdominal infection, surgery is contraindicated, for, while local, the infection is not dangerous to life, and surgical intervention is foolhardy. Clinical findings rather than laboratory reports should determine the presence of a blood-stream infection. Nonspecific therapy is the best treatment in these cases. It is easily given, and requires no special instruments or equipment.

The proteins used are normal blood, antitoxins, albumen, Coley's fluid, or milk. Ten c.c. of pasteurized whole milk is preferred, and the best results are obtained after the worst reactions, with a chill, temperature to 106°, increased leukocytes, followed by a drop in temperature to normal or below, with sudden relief from pain, and a feeling of general wellbeing. Anaphylactic shock is not to be feared. A series of six injections of 5 c.c. of boiled milk may be given, with ten-day intervals. This therapy may be used as a test of the clinical cure of gonorrhea, for it brings out an active gonorrhea. A case was cited of bilateral pus tubes persisting for one year, which cleared up symptomatically and clinically after six injections.

In discussion, Dr. Leonard A. Averett cited cases of gonococcic inflammation of the pelvis, treated with milk injections, wherein smears had become and continued negative. He uses skimmed certified milk, which gives as good results as whole milk, without so much shock. The results with this treatment have been so gratifying that very little surgery has been necessary in the acute and subacute stages. Nonspecific therapy may be carried out in office practice.

Dr. Leon Herman has found mercurochrome to have no effect in infections. He agrees with Dr. Lowenberg that half-proven data should be repressed. He doubts that the results obtained with Pregl's iodin are due as much to the injection of the seminal vesicles as to the intrafascial injection. This drug should be worked out by a committee, and scientifically reported.

Dr. A. E. Roussell cited a case of a fourteen-year-old male child who for over two months had suffered with an acute or subacute migrating rheumatism, with recurrent endocarditis. The blood culture had been negative. In several days, after a twice-daily intravenous injection of 20 c.c. of Pregl's iodin solution, he was completely relieved of pain, and ran a normal temperature. A case of an adult similar to the above had a like prompt result. Another child of 12 years, with mastoiditis, streptococcus hemolyticus in the blood, and a temperature of 106°, was given Pregl's iodin with good results. A case of acute encephalitis has been reported that was helped by this drug. In pus cases, iodin is not thrown out in the urine. Further investigation is needed. Mercurochrome is too dangerous to be used. Coley's fluid is just as good as milk in the subacute arthritis.

Dr. Fisher mentioned a case of puerperal sepsis in which 28 c.c. of 1-per-cent mercurochrome was administered, with a very severe reaction—temperature to 106°, and a sudden drop to normal, with recovery.

Dr. Lowenberg said that in the face of conflicting evidence it is hard for the general practitioner to know how to proceed. He believes milk injections are good in ascites and in pleural and pericardial effusions.

Dr. Stellwagen agrees with the current opinion that mercurochrome is valueless. Autogenous and stock vaccines are not of much benefit in genito-urinary work.

Dr. Lowenberg mentioned a case of Hodgkin's disease wherein Pregl's iodin was injected into the glands. The swelling disappeared, but recurred.

Mary A. Hipple, M.D., Reporter.

WARREN—FEBRUARY-MARCH

The February meeting was held at the Conewango Club on the 15th. Dr. Ireland, of the State Hospital, was elected to membership.

There was considerable discussion on the advisability of creating dissension in an organization such as ours by demanding strict compliance with certain rules of conduct, such as adherence to the county fee bill. Some physicians think their services are worth less than others. Competition is seldom a factor in the choice of a physician. People employ a certain physician usually because they have personal reasons, and not because his fees are less than another. Again, there is no possibility of regulating, by a fee bill, the number of visits a physician should make, and consequently, one may charge twice as much for the same service by making more frequent visits.

Dr. W. P. Clancy, who made a visit last summer to Copenhagen to study the use and effects of sanocrysin (thiosulphate of gold) in tuberculosis, and who has made use of it during the past six months in a number of cases, reported on the results he has so far obtained. He showed that if the drug is carefully used in proper dosage, and with due regard to kidney and blood reactions, it is of value, especially in the severer forms of the disease. The x-ray findings and character and quantity of sputum and fever are favorably modified by the injections intravenously. Deaths

occur if the gold is given in too large dosage or too frequently, and there are real poisonings from the drug, but the reports from Denmark, Austria, and England seem to indicate that, properly guarded, the gold does render the lung sterile, that it has some specific action on the tuberculous process, and is absorbed and can be recognized in the urine. Dr. Clancy, who has given considerable attention to the treatment of tuberculosis, expects to visit England and Switzerland this summer to investigate the gold treatment further.

Dr. Durham stated that in view of the high cost of the professional trained nurse, he thought it advisable to train in the public schools young women to be able to act as practical nurses. He thought some of the easier branches of nursing could be taught in the high school in connection with domestic science. A committee was appointed to make an investigation and report.

At the stated meeting March 15th, Dr. Lee Foshay of Cleveland, Ohio, associated with the Western Reserve University, read a paper on "The Unrecognized Condition of Pulmonary Gangrene." The cause of gangrene has been traced to Vincent's fusiform bacillus and the accompanying spirochete. Experimentally it has been shown that these organisms alone will not cause gangrene, as when, for instance, they are injected into an uninjured area, but usually trauma or lowered resistance is necessary. The organisms are derived primarily from the oral cavity, and then by aspiration they affect a previously diseased or injured lung, causing hemoptysis, foul sputum, general malaise, and an appearance suggestive of tuberculosis.

On staining by the silver-impregnation method of Fontana, the spirochetes are found in the washed sputum. This is the main diagnostic point. The prompt use of salvarsan or arsphenamin intravenously seems to bring quick response. Formerly, such cases gave a mortality of 70 per cent. Now, the mortality in a group of recognized cases is as low as 30 per cent.

It is dangerous to resect ribs or operate in the presence of a spirochetal gangrene, as the process is increased, and the gangrene invades the traumatized area. Since Kline and others have called attention to this condition, many cases have been discovered that were previously diagnosed otherwise. The very characteristic foul odor of the sputum, which permeates the breath, if associated with the spirochetes, is almost pathognomonic of lung gangrene.

Dr. Robertson reported a case of femoral hernia, which at operation showed a protrusion or pouch from the bladder in the femoral ring. The patient complained of bladder distress, which could not be accounted for until the operation. He also reported a case of scrotal hernia in which a considerable amount of omentum had to be resected, and the ring was closed with much difficulty.

M. V. Ball, M.D., Reporter.

YORK—MARCH

The monthly meeting was called to order by the president, Dr. C. W. Frey.

Dr. Walter Dandy, of Baltimore, Md., delivered an address on "The Diagnosis of Brain Tumor," illustrated with lantern slides. Dr. Dandy explained how, by the modern methods of air injection into the ventricles of the brain, tumors can be absolutely located, and as a result, removed, with many cures. He condemned the operation of cerebral decompression, excepting in rare cases of inoperable tumor.

W. Newton Long, M.D., Reporter.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. W. Wayne Babcock, *Editor*
Rydal, Pa.

THE DOCTOR'S WIFE: HER OPPORTUNITY TO SERVE

Abstract

A copy of the presidential address by Mrs. Seale Harris, of Birmingham, Alabama, delivered before the third annual session of the Woman's Auxiliary of the American Medical Association, at Atlantic City, N. J., has just been received, and reads in part as follows:

The wonderful opportunities for service of the Woman's Auxiliary must be realized when we think of what the wives of the 150,000 members of the American Medical Association can accomplish if properly organized. For inspiration we have the history of the Association. Think how much better our country must be, having the profession working together to alleviate the sufferings of mankind, than it would be with unorganized doctors, each working out his individual problems, and often for selfish purposes.

Twenty-five years ago the American Medical Association was a small affair, just as the Auxiliary now is. But we shall not have the long struggle to grow into a strong, powerful organization that the Association had, for we can build upon the foundation laid by its pioneers.

All great movements have had small beginnings, and always there has been some guiding hand to blaze the path to the fulfillment of a great plan. To Mrs. S. C. Red, of Houston, Texas, belongs the honor of being the mother of the Auxiliary. When we recall what she has accomplished it should make us ashamed to say we have not the time to give a few hours a month towards the upbuilding of an organization with such potentialities for good as has this. If all or even half the women here will agree to devote one or two hours a week in the effort to build up the Woman's Auxiliaries of their city, state, and country, we shall be able to report wonderful progress next year.

One of the main objects of the Auxiliary is to coöperate with our husbands—not in their private work, but in the affairs of the profession as a whole. We must be sure that in our work we have the approval of the organized medical profession. For that reason, the officers of the Auxiliary should have frequent conferences with the officials of the various medical societies. For

instance, when requested to aid in securing national legislation for causes which seem to be worthy, before we act on such matters we must be sure we are in harmony with the policies of the American Medical Association. It will be easy to learn the facts by consulting the secretary, or the chairman of the legislative committee of the Association. It would seem wise for the same plan to be adopted in local and state Auxiliaries.

It should be distinctly understood that while the Auxiliary is a social, it is not a society organization. Every doctor's wife, whether rich or poor, should be made comfortable at the meetings, and should be made to feel that she can have an important place in the work if she makes the effort to become a useful member. The measure of a woman's opportunities for usefulness should be her willingness to work with her sisters in genuine, unselfish effort to make life easier for the doctors, and to make living conditions better for all the people in her community. In this she is performing a patriotic service, for whatever helps to make life better for even a few persons tends toward the uplifting of the whole people.

The doctors deserve all the praise that is accorded them, but I cannot refrain from saying a word of praise for the doctor's wife. It often happens that the doctor owes his success largely to the influence of his wife. It is she who makes his home life a joy; she who encourages him, shares his pleasures and sorrows; she who cares for his children, the delight of his soul; she who answers the telephone many times every day, makes his engagements, or presents his apologies for engagements that cannot be met; she who toils and economizes that her husband may become independent financially or that he may attend medical conventions or take postgraduate work; she who pets him, sometimes spoiling him; and it is she who goes with him and his children even to "the valley of the shadow of death."

Dr. Haggard, in his presidential address, paid a beautiful and deserved tribute to the physicians who served in the World War. Too much honor cannot be given to the heroes in the medical profession who served their country faithfully, but we must not forget the loyal wives of the doctors who served their country during that period which tried the souls of women as well as men. The wife back home had the entire care and responsibility of keeping up the doctor's home and caring for his children. Many doctors' wives had to give up their home and find some employment that would help pay the family expenses. But in spite of the real hardships which many doctors' wives endured, they kept the "home fires burning" and encouraged their husbands to "carry on" for their country. No class of women did more for the Red Cross and other organizations. The sacrifices and sorrows of the doctors' wives in all wars of every nation have never been told in song or story, but they deserve, along with their husbands, unstinted praise from a grateful country.

The call for service in times of peace, though not so urgent nor so dramatic as in war, should be heeded. Perhaps the greatest opportunity for service outside the home lies in the warfare against disease. Disraeli, England's great statesman, said: "Public health is the foundation upon which rests the happiness of the people and the welfare of the state. Reform directed toward the advancement of public health must ever take precedence over all others." We must stimulate every county auxiliary to study health conditions in its community and state; and, acting on the advice of the health officials, to aid in convincing legislators that it is the duty of the state to protect its citizens from disease. We can also aid in educating the people regarding the wisdom of the program for disease prevention adopted by the public health officials; and likewise, the county auxiliaries should adopt as a part of their activities for the year the program of public health initiated by the health authorities in each county and in each community.

It is true that one woman cannot meet all the demands for service in good causes that are offered each day, and every woman must decide for herself how she can best serve her husband and children and her community. Her greatest opportunity for service outside of her home would, however, seem to be in working shoulder to shoulder with her husband in his altruistic efforts to eradicate disease, and in so doing add happiness and prosperity to all those about her. The Woman's Auxiliary offers to the doctor's wife an opportunity for service that is denied the women of every other class, and surely she will measure up to her obligations.

THE NATIONAL MEETING FOR 1926

A letter has been received from Mrs. Seale Harris, president of the Woman's Auxiliary of the American Medical Association, urging that the doctors bring their wives with them to the Dallas meeting "because they will be beautifully entertained by the Dallas women."

The first session will convene in the Palm Room of the Adolphus Hotel, at 10 a. m., Wednesday, April 21, and a cordial invitation is extended to all the Pennsylvania women to attend.

Mrs. Harris urges the organization of all the counties in the State, as "we should surely like to have a 100-per-cent organization."

THE

MEDICAL SOCIETY OF DELAWARE

THE ETIOLOGY OF GASTRIC ULCER*

Based on Findings in 200 Gastro-intestinal Examinations

WILLIAM H. KRAEMER, M.D.
WILMINGTON, DEL.

Ten years ago gastric examination was comparatively simple compared to the methods now employed. It consisted of giving the patient a test meal which was withdrawn after 30 to 45 minutes, and examined for free, combined, and total acidity, and also for lactic acid, blood, residual gastric contents, and bile. The intestinal examination included inspection of the stool for blood, parasites, bile, gall stones, and some of the bacteria—principally of the typhoid group.

A little later the Roentgen rays were added to the technic. This gave additional information, for it revealed the outline of the stomach, its size, retention of a meal after the six-hour limit, and the niche, which, if persistent in a number of exposures and after repeated examinations, was considered evidence of gastric ulcer. In the intestinal tract, following an opaque enema it revealed defects in filling, and when the appendix could be visualized, the size of its lumen and whether or not it could empty its contents. Gastro-intestinal examinations, in a general way, consisted of studies of the rectum and prolapses of the intestines, and for the purpose of locating definite pathology referable to the gastro-intestinal tract they served their purpose.

In treatment of the pathology thus revealed, however, there was virtually nothing that was of practical use, either as a relief or as a cure. For example, alkaline medication was given in cases of hyperacidity with gastric ulcer, when, as a matter of fact, the hyperacidity was a reaction of the secreting mucosa of the stomach against the irritant—toxic, chemical, or bacterial—and not, as was then thought, the cause of the ulcer. As a result, the alkali probably neutralized the acidity, which eased the pain produced by the passing of the acid fluid over the already ulcerated mucous membrane, but it also stimulated (or better, irritated) the mucous membrane so that more acid was secreted in the effort to maintain an acid gastric juice, until the secreting cells became completely exhausted. This resulted in a catarrhal, mucuslike secretion of gastric juice, wrecking digestion and assimilation, and resulting in malnutrition. Thus the original toxemia or infection which alone was responsible for the ulcer may continue its destructive processes without the slightest interference from the natural tissue vitality or resistance, destroyed through malnutrition, as without proper nutrition there can be no resistance.

I believe that gastric ulcer, duodenal ulcer, gall-bladder disease, intestinal ulceration (including typhoid fever), all appendicitis not due to mechanical causes, and all focal infections of the teeth and tonsils are constitutional, not local, diseases. The eye, ear, nose, and throat specialist no doubt will agree with me in the statement that the primary cause of sinus disease, tonsillitis, ear abscess, and mastoid disease is exposure to cold or some systemic derangement that lowers the resistance to the bacteria which are already present. The specialist in diseases of the chest, too, will agree that pneumonia, tuberculosis, and practically all diseases of the respiratory tract have their beginnings in congestive colds, senility, or constitutional disease elsewhere upon which the infection is superimposed while the tissues are in a state of low vitality.

This is equally true in gastro-intestinal diseases. Gastric ulcer is an infection of the mucous membrane devitalized by some constitutional process, and the infection is usually secondary to a focus in some other organ, such as the gall bladder, appendix, or hemorrhoids from below, and tonsils, sinuses, or teeth from above.

Our findings in disease of the gall bladder lead me to believe that in most instances the infection reaches that organ through the blood channels to the liver, traveling from there to the gall bladder. This applies particularly to the short-chain streptococci, which we have sometimes found years after a moderately severe infection of scarlet fever or influenza, and it is often the case in streptococcic infections, such as carbuncles, boils, and diphtheria. In one case

* Read before the Medical Society of Delaware, Wilmington, October 14, 1925.

of typhoid, I believe, but am not certain, that it may have come direct from the intestinal tract. This very infection I am inclined to hold responsible for gastric and duodenal ulcers.

In a large number of such cases we found diseased tonsils and infected teeth from which we grew streptococci. This infection doubtless is a cause of ulceration.

We have never been able to demonstrate streptococci in either gastric or duodenal ulcer, and I believe the reason for this is that in each case there was a marked hyperacidity—nature's own defense against the streptococci, as they do not grow on acid media. They grow best on an alkaline medium, but produce lactic acid in the medium which destroys them. Hyperacidity may, therefore, be the natural antidote to the infection responsible for the ulceration. In support of this view, the following is quoted from a paper delivered by E. Starr Judd before the Wisconsin State Medical Society on August 20, 1924:

"Rosenow and his associates have shown that the bacteriologic aspect of ulcer of the stomach in man and domestic animals often is associated with streptococcal infection in the ulcerated area; that foci of infection such as tonsils and teeth harbor the streptococcus and predispose to ulcer, and that the streptococcus isolated from the ulcer and the distant focus has elective affinity for the stomach, producing hemorrhage and ulcer on intravenous injection.

"The character of the experimentally produced ulcers and their location, especially with regard to nonhealing, resemble those of spontaneous disease. The presence of the streptococcus in ulcers in dogs, produced by the method of Mann and Williamson, its elective localizing power on intravenous injection, its presence in foci of infection, and its ability to produce this poison in vitro, indicate that it is not a secondary invader, but that it may play an important part in the production of these ulcers. It has also been found that streptococcal strains from the different species of animals brought about lesions of the stomach similar in type and location to the strains isolated from human ulcers."

In consideration of the intricate problems confronting the gastro-enterologist, it is apparent that the examination must have a very wide scope. The age, sex, occupation, habits, family history, previous accidents and operations, the nervous system, the bone structure, the muscular structure, the skin, heart and blood vessels, special senses, lymphatic system, lungs, stomach, tonsils, liver, intestines, gall bladder, pancreas, kidneys and bladder, temperature, and sex anatomy—all must be most thoroughly studied in order to find the diseased or deranged organ that was directly responsible for the lesion in the gastro-intestinal tract.

THE DIAGNOSTIC VALUE OF THE DUODENAL TUBE*

GEORGE W. VAUGHAN, M.D.
WILMINGTON, DEL.

The earliest pioneer successfully to intubate the duodenum was Dr. Hemmeter, of Baltimore, who published his first reports in April, 1895. Since then, many research workers have devised all sorts of tubes and tips. The Einhorn and Rehfuss tubes are the most popular today.

To Dr. Einhorn of New York City belongs much credit for perfecting numerous technical gastric instruments with which we are able to study scientifically the physiology of the stomach, duodenum, pancreas, and gall tract. To Dr. Rehfuss and his coworkers is due the revival in 1914 of the fractional method of gastric analysis first used by Schuele in 1895.

Many internists today do not use the fractional method mainly because it is so time-consuming, but the information obtained from such an analysis, accurately performed, will fully compensate for the expenditure of time. It is comparable to the series of plates made by the roentgenologist to complete his studies in a gastro-intestinal case, and indeed, if he were to limit himself to one or two plates his work often would be absolutely worthless.

The physiology of the stomach does not compare with the complex physiological and chemical changes that can be studied in the duodenum. There is no more interesting field in modern medicine, for the function of the pancreas and gall tract can now be analyzed in a most satisfactory manner, and often a diagnosis can be made upon this examination alone. The diagnostic value of these procedures is in direct proportion to the technic employed in the laboratory tests of the secretions obtained, the diligent use of the microscope, and the ability to interpret the findings.

The nonsurgical drainage of the gall bladder has been accomplished by the modern duodenal tube. The performance of a drainage by the Lyon-Meltzer technic is very simple. Indeed, many patients equip themselves with tube and syringe, and drain their own gall bladders after having seen it done a few times. In many cases no skill or experience is required, provided there is no obstruction at the pylorus or bile ducts.

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* Read before the Medical Society of Delaware, Wilmington, October 14, 1925.

From my observation of over 900 diagnostic biliary drainages during the last 18 months, in both clinic and a few private patients, I am certain that there is no better method of diagnosing duodenal, pancreatic, and gall-tract disease. Cholelithiasis usually will be diagnosed on first drainage by the aid of the microscope alone. The presence of cholesterin crystals and precipitated bile pigments is sufficient to warrant surgical interference. I have seen some cases in which drainage was done two and three times with negative findings, only to show evidence of stones on the fourth drainage which was confirmed at operation. Therefore, too much reliance cannot be placed on one negative diagnostic drainage, any more than it can on one negative sputum examination in a known active pulmonary tuberculosis. If a complete history and physical examination indicate gall-tract disease, this condition should be ruled out only after thorough study.

Cholecystitis can readily be diagnosed and treated in a very satisfactory manner by the duodenal tube. The diagnosis can always be made at first examination, providing there is no cystic-duct obstruction. A dark, viscid bile (containing many flakes of bile-stained mucus with shreds of exfoliated bile-stained tall columnar cells, often found in fan-shaped sheets or rosettes), pus cells, and bacteria may be the picture revealed on the first slide examined. This condition certainly does improve under nonsurgical drainage, and if the bile is examined during the course of therapeutic drainages, a gradual diminution in the pathological findings will be noted.

Dr. Lyon recommends therapeutic drainages in the following conditions: early or subacute cholecystitis, postoperative fistula with residual infection in the gall bladder or ducts, empyema of the gall bladder with pronounced surgical contraindication, acute cholecystitis complicating typhoid fever and acute infections, cystic-duct obstruction due to intraduct catarrhal swelling, biliary migraine, and hepatitis due to various chemical poisons.

EDITORIAL

THE NURSING QUESTION AGAIN

There have been several editorials in these columns lately in reference to the shortage of nurses for general nursing duty. And in several of our exchanges we find similar writings, all of the same tenor; namely, what are we going to do to provide sufficient nurses to take care of our sick, at a rate that the average patient can pay?

There seems to be a general unanimity among all those who have written on this subject lately: first, that there is not a sufficient supply of nurses to take care of those sick persons who need the care and attention of an individual nurse; second, that those who are available are charging a rate of pay per day that the average man on the street cannot afford to pay; third, that those who do accept private cases have not the devotion to their work that their professional ancestors had; and fourth, that the nurses as a class have practically unionized their work, converting it from a profession into a highly organized craft or guild. This is a most serious indictment, and one that will bear close scrutiny.

As to the first point, all authorities on the subject seem to be in agreement, that there is a genuine shortage of nurses in this country. At the first convention of the Hospital Association of New York, held at Albany, November 17 and 18, 1925, this was especially pointed out by Mrs. A. L. Hansen, former president of the New York Nurses' Association, and by others. We quote from *Hospital Management* for December, 1925:

> The afternoon was devoted to the outstanding question of the meeting, the nursing problem, Mrs. A. L. Hansen, former president of the New York Nurses' Association, opening the session with an exceptionally able paper on "Nursing, 1900 to 1925—A Comparison," bringing out the increasing appreciation of the necessity for nursing service of the best quality in all forms of sickness, and the increased call for such service due to changing home conditions. *Hospital News*, published by the Deaconess Hospital of Buffalo, was quoted in support of the improved results achieved by hospitals as a result of more intelligent nursing as medical service. The modern nurse, starting her training at 18 or 19, is as efficient as ever in spite of the criticisms made of her as of other modern girls.
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> Mrs. Hansen gave figures emphasizing the actual shortage of nurses in New York, arising not only from the relatively small number available, but from the natural demand for shorter hours of work, and pointed out that under these conditions the net result is that too many families cannot afford nursing service, leaving it in consequence as a privilege of the rich.
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> Dr. E. H. Lewinski-Corwin's paper on the nursing situation, read by Dr. Eleanor Conover, his assistant in the Hospital Information Bureau of New York City, further supported Mrs. Hansen's outline of the problem. With a probable 1,850,000 persons ill at home in the United States at any given time, 28,000 nurses are required for ward duty in hospitals, an estimated 70,000 for private patients, an estimated 225,000 in homes, and 50,000 in public health agencies, a total in the neighborhood of 375,000 or thereabouts is arrived at as the present national demand for nurses. The supply to meet this demand, according to the census of 1920, was only 149,000, and the present total can hardly exceed 200,000, if all surviving graduates were engaged in their profession. A shortage of 175,000 nurses is thus apparent.
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> The shortage is especially acute in New York, it was stated, all hospital registries having a large pro-

portion of unfilled calls. About 40 per cent of graduates marry within ten years after graduation, and most of those who marry give up nursing, thus further reducing the supply. The permanent elimination in New York of nurses who graduate from schools elsewhere not approved by the New York State Board of Education, sometimes for reasons having nothing to do with the ability of these schools to turn out good nurses, was characterized as unfair and unnecessary. It was suggested that tuberculosis hospitals should be allowed to train nurses who could serve patients of that type acceptably.

In the discussion which followed, Dr. Booth, chairman of the committee on nursing of the New York State Medical Society, commented that the question seems to be one of economics. Dr. Wallace declared that the trained attendant has been a failure as a solution of the nurse shortage, because not enough have been produced. In his hospital he stated that for seven years, classes covering the full course have been graduated in two years, with complete adherence to the eight-hour day, without requiring more nurses or other objectionable and expensive features. An excess of applicants for admission to the school has been another result, so that the hospital is now beginning to charge a tuition and breakage of $50.

As to the second point, it takes but a moment to prove that the average man cannot afford a private nurse, at the present rates. In a hospital, the average charge for a room may be safely put at $40 per week, and the average stay may be put at two weeks. This, plus a moderate fee for the laboratory, the needed x-ray, and the operating or delivery room, brings the total hospital bill to $100-$110. Now, if the patient needs a private nurse, he pays a day and a night nurse a minimum of $35 each per week, and to the hospital a minimum of $10 a week each, for board, or a total for two weeks' nursing of $180. The total cost of two weeks' hospitalization is then $300, and not one cent yet for the services of the attending physician and consultants. This latter item, however, bothers the average patient the least of all, for he figures the doctor can wait till he is back at work again, and will even then accept partial payments, which are likely to cease altogether when they reach the halfway point, or less.

No wonder, then, that illness is being recognized by all thinking practitioners as being not primarily a medical problem, but in too many instances, an economic, or a social one. If, in addition to the above outgo, we add the likely reduction of the income for a probable five or six weeks, the illness, if it affects the breadwinner, entails a total economic loss of $500 or more, with the doctor still unpaid, assuming that the wage earned is $35 per week. But the census shows that the wage is below $35 per week, on the average, making the illness all the more a crisis in the affairs of the family involved.

With the above figures in mind, we venture the estimate that not over ten per cent of our population can afford, without a real struggle, to be sick enough to need a private nurse and a hospital. And if the patient does not need the hospital, the saving on this item is not a total one, for there will be many items of additional expense at home. But the remarkable thing is that many cases from homes in such a situation insist on coming to the hospital, with all the frills added. In this connection, let us quote the editorial from the *Journal of the Indiana State Medical Association* for February 15, 1926, as follows:

We have had much to say concerning the inability on the part of the average patient to pay the excessive cost of hospital care and trained nursing in so many instances when such care was not actually necessary. The average home is or may be well lighted, well ventilated, and contains such usual conveniences as bath room, running water, electric lights, and uniform heating. There is no reason why patients living in such homes should be trotted off to a hospital for anything but the more serious and especially the surgical affections. They can be cared for at home in a very satisfactory manner with the assistance of a practical nurse, but at the present time such a course of procedure is made difficult through our tendency to encourage hospitalization and the employment of the highly trained and expensive registered nurses for nearly all of our cases. The result is that sickness, for the average citizen, sets him back financially far more than it should, and it is time to remedy the defect in our system by making it less expensive for the patient without in the least jeopardizing his care.

In the first place, we must discourage rushing patients with trivial ailments to the hospital, and we must encourage the development of a large number of practical nurses necessary for assistance in the care of patients who elect to remain in their own homes when ill with anything but the more serious ailments or those requiring highly specialized care, which latter amount to not more than ten per cent of all illness. To accomplish this it will be necessary to divide nurses into two classes, those with special training and those with limited training. The highly trained nurse would be necessary in hospitals and in the care of the more complicated cases, whereas the nurse with the limited training, corresponding perhaps to our practical nurse of today, could be used in the home where simple nursing is all that is required. At all events, some means should be adopted whereby it will be possible for people in moderate circumstances to obtain the attention and service of a nurse at a reasonable cost.

The third item of the indictment, that those who do accept private cases are none too devoted to their work, may be a matter of opinion, but it seems to us that the great weight of this opinion is in support of the charge. We happen to know personally of instances where the nurse would refuse to accept a case because she did not like the doctor in charge; or where she knew of the patient but did not like him; and we have known nurses to refuse calls to the homes of the very wealthy because they were treated some-

what as maids, and not permitted to eat with the family. We know cases that have been refused service because they could not go to the hospital, some nurses refusing to do any but hospital work; and even in the hospital cases, it has come to our attention that at times nursing has been refused by the nurse called on the mere announcement of the diagnosis, let us say, of pneumonia, as it would involve a lot of hard work perhaps. And we have known of nurses who would not put their names on the register till late in the afternoon or early evening, so that they would most likely get a call for night duty, which would mean very little to do, and perhaps enable the nurse to get in a nap or two. All this, and more, we have encountered, in the present-day noble (?) followers of Florence Nightingale. We think, without further argument, that this point may rest here as substantially proved.

The final charge, that the nurses as a class have unionized their profession, is also a matter of opinion, but here too, we believe the charge is well sustained. We do not begrudge the nurse a living wage, and we feel that the conscientious nurse earns all she will ever get out of her profession, but it is true that each and every state nurses' association has adopted a fee or salary scale that is, almost without exception, rigidly adhered to. We have no quibble or quarrel with a wage scale as such, but we do have, and legitimately so, a right to protest against its absolute inflexibility. The medical profession has in most localities a fee scale also, but this is adhered to very loosely, and much service is given for a mere fraction of the usual fee, or for nothing at all.

If the nursing profession, when it encounters a case that cannot afford the standard fee, would permit the nurses to work for what they could get, or arrange for, they would find many in their ranks whose hearts are not yet so calloused to the needs of the poor that they would refuse to work for less than the listed per diem, and I feel certain there are many natural-born nurses who would willingly work for almost nothing except the joy of doing some poor wretch some good. It would not be fair to permit any one nurse, no matter how kind-hearted or sympathetic, to do very much of this, but it would go a long ways towards rehabilitating the nursing profession in the eyes of the general and medical publics if this sort of thing were permitted, and occasionally encouraged.

Their immediate defense is that they are merely following the law of supply and demand, but this law applies only to commodities that are not in the nature of personal service. These personal-service items are almost without exception those rendered by the professions; and of all the professions, the most altruistic are the medical and the nursing ones—at least in theory. How, then, can any so-called altruistic profession plead the law of supply and demand, and retain its self-respect? Let those who are so venal keep out of both professions. The poor girl who must earn all she can get, maybe to help support aged parents, should never pick out the nursing profession for a livelihood. Other fields pay better and surer, though in this last respect the nurses are miles ahead of the doctors, for they rarely ever lose a fee, and collect 98% of the items on their books, and promptly at that.

We have neither the time nor the space to dilate on the reasons for such charges as have been outlined. We might say briefly, that the education of the nurses has evolved to such a point that they have lost their original objective —that of caring for the sick. Their curriculum now is a monstrous affair, with a smattering of this and that science, and a sprinkling of this and that art. They are at an intermediate stage in their development, and their course of training must change, in two directions. First, it must return to early principles and ideals, with a course of training that teaches the practical things that are to be needed in the sickroom, this course to require only one, or at most, two years. We think it was William J. Mayo who said a few years ago that the woman who could not be taught the really worth while and practical things about nursing in six months would *never* make a nurse, and, if we mistake not, it was he who first proposed to turn out of the hospitals, at the end of one or two years, certificated nurses who would and could really nurse the sick, and at a more modest fee than that now charged by the regular nurses. This most excellent idea has not yet had a real try-out, but the time is coming when it will, and then we firmly believe its complete practicability will be demonstrated.

The second change in the education of the nurse should be along the lines of the new College of Nursing at Yale, and two other institutions, where those who possess the mentality and the personality to become hospital administrators and social-service experts may get the most elaborate training for such work, using the hospital merely as a demonstration laboratory. There is a need for such women, but the three schools that are now engaged in this work will fill the demand for such workers for many years. It would hardly be advisable for other schools to undertake it.

It is thus apparent that our premise is correct;

namely, the present-day education of the nurse is a monstrous affair, which graduates young women who are undertrained for executive work, and who are overtrained for the practical work of caring for the sick. And this latter phase of itself is the direct cause of many complaints against the nursing profession, for many an instance may be cited where there has been a change in doctors, due to the influence of the attending nurse, who, being female, is all too prone to play her favorites. We consider it tommyrot for the hospitals to turn out half-baked doctorettes, with a four-plus ego; what we want is women to nurse the sick. Let us quote further from the New York convention, as reported in *Hospital Management,* wherein our idea, as expressed above, is corroborated, and wherein are also presented valuable suggestions for corrections:

The view was forcefully presented that the nurse training school is not a higher educational institution, like a college, but is rather a vocational school, an integral part of the hospital, and that it should be so considered. The hospital is not a mere laboratory for the training school, and should be given more consideration by the nursing authorities in the planning of training. Dr. Lawrence, of the State Medical Society, offered the suggestion that county licensing of persons qualified to nurse might help. Dr. Conley, presenting the view of the Department of Public Welfare of New York, with five training schools, said that 125 nurses a year are graduated, at a cost of $1,000 a year each, while the city institutions, on the other hand, confronted with the absolute duty of nursing the sick poor, find it impossible to secure a sufficient number of registered nurses with which to do it, and have therefore been forced to take such other nurses as can be had. The arbitrary methods of the authorities in administering the law are responsible for this, Dr. Conley declared, the refusal to recognize outside schools because of housing or other minor defects being an example.

Following this discussion, Col. Trimble's resolution on the nursing situation was adopted, creating a committee of not more than nine to handle the matter from the standpoint of the hospitals. The resolution is in part as follows:

Whereas, The course of training required for student nurses in hospitals of New York State contains subjects that are not requisite to the necessary and proper care of patients and does not sufficiently stress other subjects that are, and

Whereas, The entrance requirements under which students are admitted to schools of nursing do not properly and sufficiently recognize existing and actual conditions, and

Whereas, The regulations concerning and governing the recognition of nurse training schools and the right of graduates of unrecognized schools to practice their profession in New York are subject to individual interpretation, and

Whereas, The aforesaid and other rules and standards were adopted and made effective without the advice or consent of the hospital authorities who are required to function thereunder and who find said rulings to be excessively burdensome and impracticable, therefore be it

Resolved, That the president and the proper officers of the Hospital Association of New York State be and hereby are authorized to petition and request the board of regents of New York State that no more additions, changes or alterations be made in the curriculum, entrance examinations or other standards governing nurse training until such additions, changes or alterations have been referred to and approved by the said Hospital Association or properly designated representative, and

That immediate steps be taken to revise all existing regulations and standards so that they may be in accord with actual conditions and thereby afford relief to the hospitals of the state, and

That the president be and hereby is authorized and directed to appoint a standing committee of not more than nine members of the Association to be known as the committee on nurse training, and

That the aforesaid committee be constituted the proper representatives of the Association for the purpose of carrying out the word and intent of the resolution and to whom shall be referred any other problems or questions having to do with the said subject.

Thus, every one who knows the facts is, it seems, aware that something must be done, and done soon, to remedy the shortage of nurses available for the sick. What the best solution is, time alone can tell, but on the face of it now, it seems that the Mayo idea is the best, and deserves a serious try-out. The hospitals best suited for such an effort are naturally the larger ones in the larger cities, and to these we look for the answer. Let us hope we may not have to wait long for it.

Medical News

Deaths

Fred Prideaux, M.D., father of Drs. H. T. and W. A. Prideaux; recently, at his home in Cresson.

John Ray, M.D., father of Dr. D. P. Ray of Johnstown; February 13, at his home in Tyrone.

Irvin R. Mohney, M.D., of Brookville; Jefferson Medical College, 1905; aged 52; February 11.

Mrs. Brice, wife of Dr. James Brice, chief-resident physician of the Chester Hospital, Chester; February 21.

Amos B. Krebs, M.D., of Bolivar; Cincinnati College of Medicine and Surgery (Ohio), 1886; aged 63; February 10.

Ada Thomas, M.D., of West Chester; University of Pennsylvania School of Medicine; aged 50; March 10, of pneumonia.

Monsignor Peter Masson, Director of the Sacred Heart Hospital, Allentown; recently, after a long illness.

Alexander C. Wentz, M.D., of Hanover; University of Pennsylvania School of Medicine, 1882; aged 71; February 15.

S. L. Stonebraker, M.D., of Tyrone; College of Physicians and Surgeons, Baltimore, Md., 1905; aged 46; February 25.

Wm. S. Bigelow, M.D., of Philipsburg; New York Homeopathic Medical College, 1884; aged 73; February 18, of carcinoma of the stomach.

Abbott B. Lichtenwalner, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1891; aged 65; March 6.

Morgan J. Williams, M.D., of Scranton: New York University Medical College, 1881; born in Wales in 1849; in March, of heart trouble.

Alfred H. Read, M.D., of Norristown; Jefferson Medical College, 1897; for twenty years president of the board of health; aged 64; February 11, of heart disease.

Charles Mackenzie Hay, M.D., of Atlantic City, N. J.; University of Pennsylvania School of Medicine, 1888; aged 59; March 8, as the result of an infection contracted while performing an operation in 1904.

Jesse K. Patrick, M.D., of West Chester; University of Pennsylvania School of Medicine, 1915; son of the late Dr. Elwood Patrick; aged 37; March 10, due to inhalation of illuminating gas.

Howard A. Hellyer, M.D., of Penns Park; University of Pennsylvania School of Medicine, 1868; oldest practicing physician in Bucks county; aged 81; March 11, in the Samaritan Hospital, Philadelphia.

Harry Barr Snavely, M.D., of Lancaster; University of Pennsylvania School of Medicine, 1888; formerly a druggist; at one time on the staff of the Lancaster General Hospital; aged 61; January 29, of heart disease.

Colonel Louis Brechemin, M.D., of Cape May, N. J.; University of Pennsylvania School of Medicine, 1876; retired army surgeon, formerly of Philadelphia, and a veteran of two great wars in the history of the United States; aged 74; March 11.

James Thompson Schell, M.D., of Philadelphia; Medico-Chirurgical College of Philadelphia, 1895; president and founder of the Northwestern General Hospital; aged 53; February 22, of influenza.

Benjamin F. White, M.D., of Germantown; former Civil War surgeon and retired Baptist minister; aged 98; blind for forty-nine years as a result of an illness contracted while a surgeon in the Union Army in the Civil War; March 11.

John M. Stadter, M.D., of Wilmington, Del.; University of Maryland, 1908; for many years chief surgeon of the Physicians' and Surgeons' and Delaware Hospitals, Wilmington; attached to the clinical staff of Jefferson Medical College, Philadelphia; aged 43; February 10.

George W. Spencer, M.D., of Philadelphia; Jefferson Medical College, 1892; former assistant to Dr. W. W. Keen at Jefferson Medical College; lecturer on surgery in the Jefferson Hospital Training School for Nurses for seven years; chief demonstrator of surgery in the Jefferson Medical College; aged 56; March 7.

Births

To Dr. and Mrs. George B. Sickle, of Chester, a son, recently.

To Dr. and Mrs. Edwin C. Boyer, of Johnstown, a daughter, January 5.

To Dr. and Mrs. Joseph C. Fulmer, of Philadelphia, a son, January 8.

To Dr. and Mrs. W. Minster Kunkel, of Harrisburg, a daughter, recently.

To Dr. and Mrs. J. S. Schneller, of Catasauqua, a son, February 16.

To Dr. and Mrs. James H. Burrows, of Williamsport, a son, James H., Jr., recently.

To Dr. and Mrs. Richard Owen, of Moore, a daughter, Kathryn Dorothy, February 28.

To Dr. and Mrs. Lou M. Mitchell, of Pittsburgh, a son, Louis, Jr., December 6, 1925.

Engagements

Dr. and Mrs. D. R. Brobst, of Reading, have announced the engagement of their daughter, Miss Amy Brobst, and Mr. Ernest Douglass, of Parkersburg, W. Va.

Announcement has been made of the engagement of Dr. H. D. Heller, aged 77, of Hellertown, former State Senator, and at one time quarantine physician of the port of Philadelphia, to Miss Mary E. Gordon, of Philadelphia.

Marriages

Miss Gertrude A. H. Graham, daughter of Dr. and Mrs. Edwin E. Graham of Philadelphia, to Mr. H. B. Robb, Jr., January 27.

Miss Barbara Shoemaker, daughter of Dr. and Mrs. William T. Shoemaker of Philadelphia, to Mr. Albert W. Zimmerman, January 29.

Miss Harriet Hall Holder, daughter of Dr. and Mrs. Joseph S. Neff of Cynwyd, to Mr. Girard Heplin Rittenhouse of New York, March 4.

Bequests

Mary J. Mabie, Philadelphia, $1,500 to Samaritan Hospital, Philadelphia.

Mrs. Mary R. Miller, of Chestnut Hill, $5,000 to the Montgomery Hospital, Norristown.

Mrs. Harriet Heldberg, of Greensburg, $5,000 to the Methodist Hospital of Philadelphia.

Sarah L. Alvord, Philadelphia, Presbyterian Hospital $5,000; Home for Incurables $2,000.

Miscellaneous

Dr. Israel Cleaver, of Reading, has been a patient in the Reading Hospital.

Dr. and Mrs. D. S. Rice, of Ebensburg, are spending some time in California.

Dr. John B. Nutt, of Williamsport, is convalescing from a severe attack of pneumonia.

Dr. Charles B. Noecker, of Scranton, has returned from a three weeks' vacation in Bermuda.

The Taylor Instrument Companies, of Rochester, N. Y., are celebrating the seventy-fifth anniversary of their organization.

Dr. Charles L. Fulmer, of Renovo, has been appointed county medical director of Clinton County to succeed the late Dr. Robert B. Watson.

Dr. P. C. Reilly, of Williamsport, who has been suffering with a severe attack of tic douloureux, has gone to Philadelphia for treatment.

Dr. Frank T. Anderson, of Philadelphia, 60 years of age, was arrested in February and held in $5,000 bail on the charge of illegal sale of narcotics.

Dr. and Mrs. John B. Lowman, Dr. and Mrs. T. E. Mendenhall, and Dr. and Mrs. J. B. Woodruff, all of Johnstown, have been spending the winter in Florida.

Dr. John Winfield Sykes, of Philadelphia, has been appointed to the new position of surgeon of the Fairmount Park Commission to examine persons arrested for intoxication.

At the annual meeting of the Mount Carmel Medical Society held February 26, Dr. Charles H. Mayo delivered an address covering the functions of the gall bladder.

During February, lightning struck a high-tension wire supplying light and power to the x-ray department of the Samaritan Hospital, Philadelphia, putting the apparatus out of service.

Dr. W. A. Hausman, chief surgeon of the Sacred Heart Hospital, Allentown, has been elected president of the Livingston Club, one of the prominent clubs of the Lehigh Valley.

Dr. E. Bosworth McCready, of Pittsburgh, delivered an address on March 11 before the Richmond Academy of Medicine, Richmond, Va., his subject being "Nervous, Backward, and Delicate Children."

Dr. C. Selmar Rottner, of Philadelphia, was recently held up on the street near his home by two armed men, and robbed of his wallet containing $116 and a stickpin made of diamonds and sapphires valued at $500.

During March, Dr. Charles H. Miner, State Secretary of Health, personally took charge of an investigation into an outbreak of typhoid fever at New Milford, where fifty-two cases of the disease and several deaths were reported.

Drs. John A. Kolmer and George M. Coates, of Philadelphia, were among the speakers at the annual meeting of the southern section of the American Laryngological, Rhinological and Otological Society recently held at Asheville, N. C.

Dr. J. W. Wright, of Erie, resigned April 1 as attending physician to State Tuberculosis Clinic No. 3, after having been connected with the State Department of Health in this capacity for nineteen years. Dr. Katharine Law Wright has been appointed as his successor.

Dr. Joseph V. Klauder, of Philadelphia, was the guest and speaker at the regular meeting of the Lehigh County Medical Society held on the evening of March 9, at the Hotel Allen, Allentown. Dr. Klauder's subject was "Common Skin Diseases," and was illustrated. Thirty-five members of the Society were present.

An intensely interesting article, "An Essay on the Causes and Prevention of Maternal Morbidity and Mortality," is published in the *Medical Journal of Australia*, issue of September 12, 1925. Any one preparing a paper on this topic, or interested in the subject contents, is urged to read this article.

The Alumni Association of the Philadelphia College of Dental Surgery and the Dental Department of Temple University tendered a testimonial dinner to Dr. Albert P. Brubaker at the Adelphi Hotel, Philadelphia, March 27. Dr. Brubaker had been professor of physiology in that institution for over twenty years.

Dr. Edward B. Heckel, of Pittsburgh, Chairman of the Board of Trustees of the American Medical Association, and Treasurer of the Board of Trustees of Allegheny College, had the misfortune recently while on a visit to Allegheny College, in Meadville, Pa., to slip on an icy sidewalk, thereby sustaining a Colles's tracture.

Word has been received that a physician is needed to locate in the small village of Hazelton, W. Va., where there is plenty of rural territory. Hazelton is four miles from Garrett County, Maryland line, and six miles from Fayette County, Pennsylvania line. Any inquiries for further information will be gladly answered by Mr. S. F. Guthrie, Hazelton, W. Va.

Mr. and Mrs. Henry Phipps, of New York, have offered $500,000 to Phipps Institute of the University of Pennsylvania on the condition that the University raise an equal amount. This institute, for the study and prevention of tuberculosis was founded by Mr. Phipps in 1908, with a gift of $1,300,000, and later gifts aggregated $2,000,000.

The School of Medicine, University of Pittsburgh, will give a two weeks' postgraduate course devoted to the interests of the general practitioner, beginning June 1, and a third week of laboratory instruction in simple methods to those interested. Considerable time will be devoted this year to the study of diseases of the cardiovascular system. An outline of the course will be mailed on request.

Dr. H. H. Holderman has been appointed Surgeon-in-Chief of the Locust Mountain Hospital at Shenandoah, which will be opened in the near future. The hospital was started under private auspices, but during the past year has been taken over by the State Welfare Department. Dr. Holderman is a native of Shenandoah, but spent two years in Philadelphia doing postgraduate work.

The Mellon Lecture of the Biological Society of the University of Pittsburgh will be held in the Carnegie Lecture Hall, Carnegie Institute, Pittsburgh, Friday, April 30, 1926, at 8:15 P. M. The title of the address will be "Studies on the Adrenal Glands," and the speaker will be Dr. G. N. Stewart, Director of the H. K. Cushing Laboratory of Experimental Medicine, Western Reserve University, Cleveland.

The new x-ray department of the Woman's Hospital, Philadelphia, was opened in February, with Dr. Blanca Hillman in charge. Since last June, when the joint x-ray department maintained by the Woman's Medical College Hospital and the Woman's Hospital was taken over entirely by the Medical College, the Woman's Hospital has been without an x-ray department. When such work was essential, the patients were sent to other hospitals.

A special bulletin has just been issued by the Bureau of Industrial Hygiene of the New York State Department of Labor comprising a résumé of the literature of silicosis, which was arranged for the use of the physicians in the State of New York. This bulletin is available gratis to any physician applying for it. Address: Director, Bureau of Industrial Hygiene, New York State Department of Labor, 124 East 28th St., New York City.

The Allegheny County Medical Society is offering a prize for the best case report submitted by an intern of any approved hospital in Allegheny County. By intern is meant one who is taking his (or her) hospital year as required by the State law. By approved hospital is meant a hospital approved for internship by the Council on Medical Education and Hospitals of the American Medical Association. The prize is $25.00 with honorable mention to such as have outstanding merit.

The annual meeting of the American Association of Industrial Physicians and Surgeons will be held in Philadelphia, May 24-26, 1926. Headquarters will be at the Hotel Pennsylvania. There will be an interesting and worthwhile program equally divided between contributed papers and discussions and hospital clinics, largely under the auspices of the University Medical School faculty. All physicians in good standing who are interested in industrial medical problems are invited to attend.

Four persons narrowly escaped death, March 15, when a dynamite bomb exploded at the home of Dr. W. D. Hunter, of Monessen, wrecking the side of the house and causing considerable other damage near by. A similar attempt was frustrated a week before when Dr. Hunter, hearing the squeak of automobile brakes and men prowling about the house, found a bomb of twelve dynamite sticks tied together in the cellar, directly below his room, and cut the fuse before it detonated. The reason for the bombing is rumored to be political bitterness.

Dentist Needed.—Rices Landing, Greene County, Pa., is badly in need of a dentist, the nearest dentists being five, six, and eight miles away. The population of Rices Landing is about 1,000, with 1,000 in the country surrounding, and 3,000 in a large mining town adjoining. An apartment with office can be rented for $25 a month, and a large modern house with all conveniences situated across the street from the Pennsylvania Railroad station can be rented for $50 a month. Rices Landing is a two-hour ride, either by train or motor, from Pittsburgh. For further information, address Carl L. Lutz, M.D., Rices Landing, Pa.

It has been announced that through the will of the late Dr. J. William White, the University of Pennsylvania received $5,000, to be invested and reinvested and finally used to publish a record of the manners

and customs of this age in relation to medicine and the life of the ordinary practitioner.

The will reads: "I desire the publication to be made on such terms, and in such manner as shall constitute it a memorial, which may be of interest as preserving a record of certain manners, customs and peculiarities of this period, of incidents of the ordinary life of a citizen of Philadelphia and of a teacher and practitioner of surgery in the last half of the nineteenth century and the beginning of the twentieth century."

At the end of a century after Dr. White's death the bequest will have grown to $1,196,510.

The Annual Meeting of the American College of Physicians and the tenth annual clinical session of the American Congress on Internal Medicine were held at Detroit and Ann Arbor, Michigan, February 22-27, 1926. Dr. C. G. Jennings, presided at the session of the Congress on Internal Medicine, and Dr. Alfred Stengel, of Pennsylvania, president of the American College of Physicians, presided over its deliberations. The first and foremost object of the College is to provide opportunities for men, earnestly striving to perfect themselves as internists, to see and learn all real advances in medicine that may be presented in outstanding medical centers. Drs. James M. Anders, W. Wayne Babcock, and Gabriel Tucker, all of Philadelphia, were among invited guests who delivered addresses upon especially assigned subjects. The convocation address was delivered by Dr. Alfred Stengel, of Philadelphia.

During the past year, six teachers of the Pennsylvania Home Teaching Society and Free Circulating Library for the Blind have paid 7,103 visits to blind persons in the State. A summary of the work of the organization was published in its forty-fourth annual report. The blind people helped numbered 1,564, and of these, 241 were new cases. The work taught by the teachers included reading by means of the Moon and Braille systems, knitting, crocheting, writing, and typewriting. This society is not only the first of its kind to be established in the United States, but it is the only home teaching society for the blind which purchases and maintains a library of embossed books. According to the report, the total distribution from the Philadelphia and Pittsburgh libraries was 48,610 volumes, 29,230 of which are in Moon type. The officers of the society, who were elected at the annual meeting, are: Dr. L. Webster Fox, president; Ellis A. Gimbel, first vice-president; Rev. Llewellyn N. Caley, second vice-president; John J. Wilkinson, treasurer; and Mrs. Isabel W. Kennedy, secretary.

A number of drug store proprietors in Philadelphia were arrested in February for making and selling alleged synthetic rye, Scotch, and other whiskies, gin and wines, made from formulas supplied by one John J. Gottleib, who is held under $3,000 bail. The names of the druggists and several physicians were found in Gottleib's books. Gottleib, who hails from Detroit, circularized the Philadelphia physicians about three weeks before he was arrested.

The Prohibition Administrator has disclosed the fact that alcohol is being manufactured from a vinegar by-product, at a cost of 50 cents per gallon. This procedure is almost nationwide in its scope. Since the vinegar product, ethyl acetate, can be shipped all over the country without supervision or interference from prohibition officers, this explains why the government officials cannot frustrate the plans. Another reason for its favor is that it is accomplished with the use of two chemicals, both of them ordinary household products.

Chiropractor Murder Trial.—During the recent trial in Philadelphia of a chiropractor, on the charge of murder of his paramour in his office and dismembering of the body to effect disposal of the same, the prosecuting attorney attempted to prove that the chiropractor had not been duly licensed.

The Act of 1911, of this State, as amended in 1913, states that a chiropractor must be licensed to practice drugless therapy. According to the records at Harrisburg this chiropractor has not been licensed. The presiding judge sustained the objection of the attorney of the defendant, that the introduction of this question was irrelevant, as he was not on trial for the violation of that Act.

It was interesting to note that the attorney for the defendant endeavored to take advantage of the situation by raising the question "that because of public opinion against chiropractors, thousands of them through the State do not register or take out licenses?" The prosecuting attorney objected on the grounds that it was an absurd question, dealing with the ethics of a profession, and was irrelevant. Objection was sustained.

Luzerne County Medical Society Library.—The Luzerne County Medical Society is justly proud of its library, which contains over 7,800 volumes. A file of thirty-six medical journals is maintained in its reading room. The Society has honored one of its members by recently approving that the library shall be named the Lewis Harlow Taylor Library. This is a worthy tribute to the ceaseless activities on the part of Dr. Taylor, to whom is due the credit of the efficiency of the library in acquisitions and functioning, as it exists today.

Every county society should, if possible, have its own home and library. It is something to work for. Each society should receive an inspiration from the altruistic work of Dr. Taylor, and should make every effort to establish its own home and library.

The endowment fund consists of $15,000, which amount was contributed in 1917. The board of trustees of the Luzerne County Society has deemed it expedient to increase the endowment fund of the library by subscription within the society. An anonymous benefactor has agreed to contribute an amount equal to that raised by the society.

Completion of Plans for Heart Demonstration Class.—The plans for the heart demonstration to be given in Philadelphia, by the Philadelphia Heart Association, have been completed. The course will be given from May 17 to May 20 inclusive. This course is open to physicians throughout the State of Pennsylvania. All registrations for the course should be sent in to the Executive Office, 311 S. Juniper Street, Philadelphia, Pa., not later than April 20.

CORRESPONDENCE

Harrisburg, Pa., March 30, 1926.

Editor,
Atlantic Medical Journal.

Dear Sir: Please publish the resolution passed by the State Board on February 11, 1926, relative to the licensure of applicants from the National Board as well as from state boards, by endorsement of their certificates, which indicate that they had been successfully examined. The reports already published seem to indicate that this action applied only to applicants from the National Board, whereas it applies equally to endorsement of state licensure.

The resolution follows:

"*Resolved*, That upon presentation by a candidate for medical licensure in the State of Pennsylvania of satisfactory certificates showing that he or she has in every way fulfilled all the scholastic and other requirements of the Medical Act and the regulations of the Pennsylvania State Board of Medical Education and Licensure, such applicant may be licensed by endorsement of his or her certificate, provided it was issued by any examining board which is considered competent by the Pennsylvania State Board of Medical Education and Licensure to examine adequately. Any conflicting regulations heretofore adopted by the action of the Pennsylvania State Board of Medical Education and Licensure are hereby rescinded."

Yours very truly,

I. D. Metzger, M.D., *President.*

BOOKS RECEIVED

The Surgical Clinics of North America (Issued serially, one number every other month). Volume V, No. 6 (Philadelphia Number), December, 1925. 223 pages with complete index to volume 5, and 50 illustrations. Per clinic year (February, 1925, to December, 1925), paper $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.

The Rockefeller Foundation International Health Board. Eleventh Annual Report, January 1, 1924 to December 31, 1924. 61 Broadway, New York City, January, 1925.

International Clinics. A quarterly of illustrated clinical lectures and especially prepared original articles by leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia. Volume I, Thirty-sixth Series, 1926. Philadelphia and London: J. B. Lippincott Company.

Facts of the Heart. By Richard C. Cabot, M.D., Professor of Medicine and Social Ethics, Harvard University. Octavo of 781 pages with 163 illustrations. Philadelphia and London: W. B. Saunders Company, 1926. Cloth, $7.50 net.

Bacteriology and Applied Immunology for Nurses. By Robert A. Kilduffe, A.B., A.M., M.D., Director, Laboratories, Atlantic City Hospital, and City Bacteriologist, Atlantic City, N. J.; etc. The Bruce Publishing Co., Milwaukee, Wis.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

TEXTBOOK OF PHYSIOLOGY. By William D. Zoethout, Ph.D., Professor of Physiology in the Chicago College of Dental Surgery and in the Chicago Normal School of Physical Education. Second Edition, illustrated. St. Louis: The C. V. Mosby Company, 1925. Price $4.50.

Although the text is arranged in simple sequence of chapters, the first four may be grouped as introductory, for their presentation of protoplasm, ferments, the tissues and cellular exchange, gives the reader a conception of the fundamental processes by which physiological acts are brought about. Then follows the consideration of muscle-nerve physiology, concluding with a brief chapter on the interrelationship of the organs by nerve impulses. The next group of chapters considers the circulatory, respiratory, and digestive systems under the following headings: blood—the internal medium of correlation, cell nourishment, gas exchange, respiration, foods, digestion, absorption, and the movements of the alimentary canal. A chapter each on metabolism, animal heat, diet, the internal secretions, the kidneys and the skin, connects the earlier with the final chapters on the receptors or sense organs, the central nervous system, and reproduction.

The 604 pages of text are illustrated with 186 cuts and diagrams, also with many tables which aid greatly in bringing the ideas presented within the appreciation of the reader. A complete index is a valuable conclusion.

The book aims to fill the gap between the elementary and the wholly scientific presentation of the subject of physiology, and is therefore written especially for dental, pharmacy, and normal schools.

The author says that more space is devoted to the practical side of nutrition, physical exercise, fatigue, and kindred topics than is usual in a textbook of physiology. This is a very valuable point of view, since modern physiology tends to emphasize the practical application of its principles, as a means of either prevention or palliation of disease.

This book is commended not only to those students for whom it is especially written, but to any intelligent person wishing to secure a general idea of modern physiology.

A TEXTBOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M.D., Professor of Medicine, Medico-Chirurgical College, Graduate School of Medicine, University of Pennsylvania; and L. Napoleon Boston, M.D., Associate Professor of Medicine, Graduate School of Medicine, University of Pennsylvania. Third Edition, entirely reset. Octavo of 1,422 pages, 555 illustrations, some in colors. Philadelphia and London: W. B. Saunders Company, 1925. Cloth, $12.00 net.

The appearance of a third edition of a work upon medical diagnosis by two recognized authorities in clinical medicine should be a recommendation in itself.

There is a good postgraduate course in diagnostic medicine between the covers of this volume. In spite of the excellence of much of the work presented, however, the reviewer did not find himself in accord with the statement made in the preface that "the book is believed to be complete as a practical and dependable aid to the general practitioner in his efforts to recognize disease." If one reads, for instance, the article upon the differential diagnosis of advanced pulmonary tuberculosis, one fails to find mentioned such important and commonly mistaken conditions as malignant disease of the lung or pleura, foreign bodies in the air passages, lung abscess, fibrosis due to various causes, pulmonary thrombosis, or embolism and visceral syphilis.

The authors are acknowledged experts in medical diagnosis, but they have failed to include in the third edition of their book upon the subject much of the working knowledge for which they are justly noted. Can it be that two such eminently practical physicians as are the authors consider that two pages, each, devoted to "Tuberculin" and "Indicanuria" is more important information for the general practitioner than a complete discussion of the common differential diagnostic problems that are encountered daily?

One reads with interest that the synonym of acute rheumatic fever is "focal infection," but is discouraged to find that "muscular rheumatism" is listed as a disease, with the synonym "myalgia." Why not focal infection? The authors do not mention the van den Bergh test as useful in a modern study of jaundice. This is astonishing when so many favorable reports are heard concerning this test.

It is surprising to find that in the all too brief article upon "The X-Ray Evidence of Diseases of the Bronchi, Lungs, Pleura, and Diaphragm" by that expert roentgenologist, G. E. Pfahler, no mention is made of the use of this agency in the recognition of foreign bodies in the air passages, or in diagnosing a massive collapse of the lung. Is it possible that Professor Pfahler wrote his article in haste, and has not revised it for three editions?

The section on "Diseases of the Nervous System," by Dr. T. H. Weisenburg, is excellently written. It is concise, authoritative, and interesting to the general practitioner, without overburdening him with facts for which he has not enjoyed the special training to understand.

The reviewer believes that it is easier to be an excellent physician than it is to write an excellent book for the guidance of general practitioners. He hopes that the next edition of the *Medical Diagnosis* by Anders and Boston will reveal a more careful consideration of relative values in medicine, and believes that the book can be reduced in size by the elimination of unnecessary material, and that its value will be increased thereby.

APPLIED BIOCHEMISTRY. By Withrow Morse, Ph.D., Professor of Physiological Chemistry and Toxicology, Jefferson Medical College, Philadelphia.

(Continued on page xiv.)

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BOOK REVIEWS

(Continued from page 506.)

Octavo of 958 pages with 257 illustrations. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $7.00 net.

In this work, Professor Morse has most ably bridged the gaps between the fields of biochemistry and medicine. The textbook is primarily for the use of students in physiological chemistry, but the practical applications of this highly technical knowledge to the medical problems of the physician have not been lost sight of. Consequently, as a textbook for students who are preparing to be physicians, this work will be of special value. One of the criticisms of our present-day, highly technical medical education has been the rather sharply demarcated separation of the studies of the first two years from those of the last two years. Anatomy, physiology, and chemistry are fundamental sciences, and as such they have advanced to a highly technical stage, which has somewhat removed them from the clinical studies of disease as presented at the bedside. The practice of medicine must necessarily deal with variable, and often intangible, factors which cannot be placed on exactly the same cold, scientific basis as the more fundamental sciences, and consequently, in many of our schools, there is a sudden change in the character of teaching between the second and third years, which is often very disturbing to the student. By anticipating somewhat the clinical application of the fundamental sciences while teaching them in the first two years, much of the confusion incident to this change can be avoided. More and more, teachers are coming to realize the importance of this.

Professor Morse has been peculiarly successful in thus bridging this gap, and as a result, his textbook will undoubtedly answer a long-felt need in the training of medical students. In his chapter on "Man and His Environment," Professor Morse shows in a most interesting manner the relationship that exists between the human organism and the various chemical anl physical laws of nature. The fundamental conceptions of chemistry, including the latest theories as to the structure of the atom, are elucidated in an unusually clear and striking manner. Chapters are then devoted to the enzymes as the promoters of chemical action in the body. The production of energy by glucids and lipids is presented in detail, and the metabolism of the protids is taken up. Under the chapter on the "Special Chemistry of the Tissues" is presented the latest knowledge on the chemistry and metabolism of inorganic and organic tissues of the body. The digestion and utilization of foods is discussed; also nutrition and metabolism, including the latest knowledge on the vitamins and the glands of internal secretion. The origin and elimination of waste products naturally follows, together with the significance of these substances.

Although the entire work is primarily a textbook, and contains a wealth of detail as to the technic of the chemical determinations and studies, yet because of the constant medical application of the scientific facts presented, this book would be of very great interest and real value to the practicing physician. While certain subjects, such as the basal metabolism and the glucose utilization, are of especial interest to a physician, yet it would be of great value to every practitioner carefully to study this book as a whole.

METHODS AND PROBLEMS OF MEDICAL EDUCATION. (Third Series). Division of Medical Education. The Rockefeller Foundation, 61 Broadway, New York, N. Y., U. S. A. Pp. 242.

This, the third series in "Methods and Problems of Medical Education," presents valuable information as to the methods of teaching physiology, pathology, anatomy, and therapeutics in institutions, at Western Reserve University, Harvard Medical School, and Johns Hopkins University and Hospital, contrasting with the

(Continued on page xvi.)

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BOOK REVIEWS

(Continued from page xiv.)

Universities of Cambridge, Groningen, Leiden, Frankfurt am Main, McGill, and Peking Union Medical College. Floor plans of many of the buildings are incorporated, offering points of practical suggestion to similar institutions that may be contemplating new units.

While a very high grade of teaching can be carried on in these institutions, the recurrent thought comes as to the overhead burden of teaching theory and research along special fields to medical students who are thus deprived of instruction in the fundamentals of medicine, surgery, and obstetrics.

OUR PRESENT KNOWLEDGE OF HEREDITY. A series of lectures given at the Mayo Foundation and the Universities of Wisconsin, Minnesota, Nebraska, Iowa, and Washington (St. Louis), 1923-24. Cloth, 250 pages, illustrated. Philadelphia and London: W. B. Saunders Company, publishers.

William Ernest Castle, Professor of Zoölogy, the Bussey Institution, Harvard University, outlines the general problem of heredity and its historical setting, presenting the chromosome theory, and the hypothesis that the female is endowed with an equal number of paired chrosomes, but the male with one unlike pair. Studies of the fly, Drosophilia, of guinea pigs, and other animals are described.

The heredity of sex is discussed by Clarence Erwin McClung, of the University of Pennsylvania. From the study of sex-linked characters, the belief has arisen that sex is inherited. Other interesting phenomena, both confirmatory and refutative, are considered.

Under "The Inheritance of Acquired Characters," Professor John A. Detlefsen, of the University of Pennsylvania, presents facts indicating that acquired somatic characters cannot be inherited, that only modifications of the germ cells themselves are inheritable, although some evidence to the contrary is also discussed.

Heredity in relation to cancer is discussed by Maud Slye and Harry Gideon Wells, of the Sprague Memorial Institute, University of Chicago. An exhaustive analysis of previous studies of this question, both experimental and statistical, together with the thirteen years' experiments of Slye, seem to prove the contention that the tendency to cancer is a recessive character following mendelian laws of heredity. Tables showing the family histories of laboratory mice for many generations supported by careful necropsies are well worth study. The induction of experimental tumors is analyzed, and the conclusion suggested that this supports, in many cases, the hereditary theory. An exhaustive bibliography adds to the value of this chapter.

The practical application of the subject is treated by Professor Michael F. Guyer, of the University of Wisconsin, under the title of "Eugenics." Startling figures are presented showing that the average intelligence of the citizens of the United States is well below the normal for thirteen years of age; that various forms of insanity and feeblemindedness are inheritable according to mendelian laws, thus frequently contaminating normal strains by means of apparently normal carriers; that the defectives are outbreeding the normal strains; that the birth rate of the superior types is decreasing so that within a century or so they will be extinct; that the population of the world is increasing so rapidly that our grandchildren will face a food shortage of serious proportions; that the worst records for insanity and criminality have been made by north-European immigrants; and many other facts of surpassing interest. Segregation of the unfit is urged, as well as selection of our immigrants according to individual fitness rather than racial affiliations, and at the source rather than the terminal.

The subject is fascinating, the presentation simple and direct (although the uninitiated will find the dictionary useful), and the volume is highly recommended by the reviewer.

(Continued on page xviii.)

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BOOK REVIEWS

(Continued from page xvi.)

MEDICAL HEREDITY. By William Browning, Ph.B., M.D., Neurologist to the Long Island College Hospital, etc. Pp. 250, 8vo. Baltimore: The Norman Remington Co., 1925. Price $4.00.

This book considers the "distinguished children of physicians," and is a study based upon family histories embracing some 6,500 persons, sometimes extending over as many as eight consecutive generations. It represents what must be the work of many years, and for having persevered to its completion the author shows himself to be a man of remarkable steadiness of purpose.

It purports to be a study of heredity and genetics, and from his enormous collection of data the author concludes that the children of physicians are unusually gifted, and excel in various spheres of higher intellectual activity, with a distinct bent toward medicine.

We are obliged to confess that we find the book hard to read. In some cases, it is difficult to understand just what the author is talking about. Thus, about the middle of page 168 we read, "Some callings, such as finance, engineering or chemistry, are in touch with special phases of human life and endeavor, in others the contact is wider, but with none is it so general as in medicine. In the parent *it* is apt to stay collective, but in the progeny there is a chance for *it* to segregate into *its* elements. We can thus regard *it* as a natural expression of medical heredity." What do these *its* (Italics ours) stand for, and what does this paragraph mean?

Dr. Browning's studies do not seem to us to be scientific. They deal with a specially selected group of cases with no parallel studies for controls: they scarcely consider the maternal line of descent which ought to be as important as the paternal, and the term "distinguished" is not defined except that it entitles to admission into *Who's Who.*

To us it does not seem at all remarkable that children should follow in their father's footsteps unless they ascend beyond his dignity; they usually do not fall below it. Therefore, to find the sons and unmarried daughters of doctors interested in the profession that brought them a means of livelihood and education, and availing themselves of the opportunities of already made practices is not surprising. Doubtless the same would be found true of lawyers and ministers. In lay callings, sons seem as frequently to enter into and succeed to their fathers' businesses as into others.

So we question whether, if the whole study had been made upon some more scientific and comparative basis, the results would be as Dr. Browning sees them after his patient, painstaking, and elaborate study.

It is a pity that Dr. Charles B. Davenport, who wrote a kindly introductory note to the volume did not have an opportunity to review it. Even in his friendly words he could not help pointing to the weakest spots.

HEADACHE: ITS CAUSES AND TREATMENT. By Thomas F. Reilly, M.D., Sometime Professor of Medicine, Fordham University; Attending Physician, Bellevue and Allied Hospitals, Fordham Division, and at St. Vincent's Hospital. Philadelphia: P. Blakiston's Sons & Co. Pp. 246; price $3.00.

The author gives an excellent summary of the various forms, causes, differential diagnosis, and treatment of headache. Aside from a few typographical errors, he is to be congratulated on the practical presentation of a symptom that is often dominant, and is of interest to every physician, no matter in what special line of work he may be engaged.

This little volume dealing with an important symptom will be found interesting and helpful along side of larger works on medicine. One may find in it, in a few minutes, what he may not find in a large work.

(Concluded on page xx.)

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BOOK REVIEWS

(Concluded from page xviii.)

FOOD FOR THE DIABETIC. What to Eat and How to Calculate it with Common Household Measures. By Mary Pascoe Huddleson, Consulting Dietitian. With an introduction by Nellis Barnes Foster, M.D. Second edition revised. The Macmillan Company, New York, price $1.25.

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SPIROCHETAL INFECTIONS OF MAN*

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BOSTON, MASS.

The Spironemata or "spirochetes" which cause disease in man may be classified, for the purpose of this discussion, in two groups: the first, including those which give rise primarily to infection of the blood; and the second, those which produce primarily local lesions. In the first group are classified the microörganisms which give rise to the spirochetal fevers, as relapsing fever, African tick fever, rat-bite fever, and the *Leptospira* of hemorrhagic jaundice and of yellow fever. In the second group are included the Spironemata of syphilis, frambesia, phagedenic or tropical ulcer, and a dermal granulomatous form of spirochetosis which I have recently described and to which I will refer again today.

SAPROPHYTIC AND SUPERIMPOSED MICROÖRGANISMS AND UNCONFIRMED OBSERVATIONS

In addition to these Spironemata which are known definitely to cause disease, a number of others have been described which have been believed by the authors who have studied them to be pathogenic species. However, some of these spirochetes have been shown definitely to be either accidental invaders or saprophytic microörganisms, or the observations have been shown later to be erroneous. Thus, for a time it was considered that a species of spirochete might have some etiological significance in connection with certain forms of carcinomata, and a spirochete was found, particularly in some of the infectious tumors of mice. Arnheim[1] held that the spirochete found in carcinoma was a distinct species, and identical with the one found in certain malignant tumors of animals. More recently, however, it has been shown that this microörganism has nothing to do with the growth of these tumors, and it has also been found in the blood of normal mice. Proescher and White[2] also reported a spirochete, which they named *Spirochæta lymphatica*, to be the cause of lymphatic leukemia and lymphosarcoma. During the recent war, Reimer, and Coles, and Couvy and de la Rivière at different times claimed to have discovered a spirochete in trench fever,[3] while Salomon and Neveu recorded the presence of spirochetes in three cases of trench nephritis.[4] Couvy,[5] Broquet, and Verwoort[6] reported the presence of spirochetes in cases of dengue fever.** These observations, however, have not been confirmed, and most of them have been refuted.

Among other diseases which have recently been said to be due to spirochetes are scarlatina, as caused by *Spirochæta scarlatina,* described by Wagner[7] in 1916; spirochetosis arthritica, in which *Spirochæta forans* was referred to by Reiter[8] as the etiological factor; acute yellow atrophy of the liver, in which a spirochete was described by Hayashi and Kibata;[9] a form of erythema nodosum, reported upon by Massini[10] in 1921 as due to *Spirochæta agilis*†; and a form of psoriasis, described by Oelze[11] as caused by *Spirochæta sporogona.* Finally, Sittmann[12] has also described a spirochete in encephalitis lethargica. However, none of these conclusions have been accepted. *Spirochæta hebdomadis* which was described by Ido, Ito, and Wani[13] as the cause of seven-day fever, and the spirochete found by Blanchard and Lefrou[14] and others in cases of black-water fever are apparently identical with or very closely related to *Spirochæta icterohæmorrhagiæ,* though Battistini[15] has found that serologically *Leptospira hebdomadis* differs from *Spirochæta icterohæmorrhagiæ* in that serum prepared with the former organism has no agglutinative or destructive effect on the latter one. Broughton-Alcock[16] has believed that *Spirochæta eugyrata* of the intestinal tract has a definite etiological significance in certain chronic and intermittent cases of dysentery. Re-

*Illustrated lecture delivered before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

**Bonne (*Bull. Soc. de path. exot.*, 1924, xvii, 623) has found the spirochete observed by Verwoort to be identical or very closely related to *Leptospira icterohæmorrhagiæ.*

†Galli-Valerio (Arch. f. Schiffs u. Tropen-Hyg., 1923, xxvii, 365; ibid., 1924, xxviii, 167) has recently found a spirochete in multiple subcutaneous fibrous tumors. Some observers have thought this organism to be *Spirochæta pertenuis.*

cently, many reports have appeared in the literature with reference to a special form of bronchitis caused by *Spirochæta bronchialis* (Castellani). The recent investigations by Pons[17] seem to show that the spirochetes in the sputum in bronchial spirochetosis are perhaps similar to those hitherto described as occurring sometimes in the normal human mouth and which may under certain circumstances increase in virulence and assume pathogenic properties.

A number of investigators have also regarded multiple sclerosis as a form of spirochetosis—spirochetosis argentinensis.[18] Kuhn, Steiner, and Hoffmann believe there is almost no doubt that multiple sclerosis is a well-defined disease in which the inflammatory process is produced by a spirochete present in the blood but not in the tissues, except in the central nervous system, especially surrounding the small venous blood vessels, which is said to be particularly the location of the spirochetes. The organism resembles *Leptospira icterohæmorrhagiæ* and not *Spirochæta pallida.* Kuhn and Steiner have produced the disease by inoculation in rabbits and guinea pigs, and in a monkey in which the spirochete was found in the lesions. However, Verga[19] has recently examined the central nervous system in two cases for multiple sclerosis, using the Levaditi, Noguchi, and Jahnel methods, but was unable to find spirochetes.

During the present year Micheloni[20] has described a serious disease of spirochetal origin which he states occurs in the southern part of Rio Grande, Brazil. The condition is apparently a chronic form of meningitis which, while not proving immediately fatal, impairs the health and leads to death by some intercurrent disease. He states that spontaneous cure may occur in children and during adolescence, but is rare in adults. The spirochete causing the affection is said to resemble *Spirochæta refringens,* but is thicker. It shows more active movement than *Spirochæta pallida,* and it is found in the spinal fluid but not in the blood. The Wassermann reaction is usually positive, but salvarsan and mercury fail to do good and may even do positive harm. The ocular symptoms are said to be peculiar and are thought to be pathognomonic. It is stated that the spirochetes are present in large numbers in the anterior chamber of the eye, and that they can sometimes be seen by the infected person. The two other cardinal symptoms are tinnitus and cardiac palpitation. We did not meet with this affection in northern Brazil during the past year, nor did we hear of its being observed by other Brazilian physicians.

Kermorgant,[21] of the Pasteur Institute, Paris, has found in the saliva of patients suffering with mumps a spirochete of extremely regular spiral form that is fairly easily grown anaërobically in a medium containing rabbit serum and corpuscles of the horse. The organism is associated with a motile Gram-negative bacillus. It seems to have a true symbiotic relation with the spirochete, perhaps by influencing the reaction of the medium. It resembles somewhat *Spirochæta pallida* and *Spirochæta cuniculi.* The present organism, however, is not soluble in saponin and is said also to differ serologically. Intratesticular and intraparotid injections of the culture rich in spirochetes are said to produce in animals orchitis and parotitis which is similar to the natural disease in man. Rabbits and monkeys both react, and although no spirochetes were found in sections of the glands, cultures of them were said to contain many spirochetes. It is also stated that serum from convalescing patients after the third week agglutinates the spirochete in higher dilutions than it does other spirochetes. Further observations on this microörganism are very desirable.

Spirochetal Fevers

Returning to the organisms classified in the first group, whose pathogenicity in man has been generally recognized and definitely established, I shall first discuss those which give rise to the spirochetal fevers. In this group, the microörganisms giving rise to the disease are present in the circulating blood during the most active stages of the disease, a fact which often renders possible an accurate diagnosis. The relapsing fevers are acute, specific, infectious diseases, characterized by sudden onset, severe headache, pain in the back and limbs, enlargement of the spleen, febrile paroxysms and remissions, and the presence of *Spironema recurrentis* or *Spironema duttoni* in the blood. European, Indian, American, African, Central American, and Japanese forms have been described, all considerably resembling one another from a clinical standpoint, and the spirochetes encountered in these relapsing fevers in different parts of the world have received a number of different names. Noguchi was able to demonstrate but slight differences in cultures for several of these types, and the differences between them are not sufficiently important to justify the establishment of all these species. Some years ago the writer[22] studied a number of these various spirochetes isolated in different parts of the world from the standpoint of differentiation of species, and from an investigation of the immune serum reactions and animal susceptibil-

ity was able to distinguish only two distinct species; namely, *Spironema recurrentis* and *Spironema duttoni.* The immune-serum reactions *in vitro,* when taken alone, are often a very unreliable means of differentiation of certain species of spirochetes.

While it has been thoroughly established by the investigations of Sergent, Nicolle, and others, that *Pediculus humanus* is the usual arthropod transmitting *Spironema recurrentis,* which causes the form of relapsing fever commonly met with in Europe and other countries having a temperate climate, Dutton and Todd have shown that African relapsing fever, caused by a very similar organism—*Spironema duttoni*—is transmitted by the tick *Ornithodorus moubata.*

Also in Panama recently it has been demonstrated by Bates, Dunn, and St. John[23] that not the louse but *Ornithodorus talaje* is the intermediate host for the spirochete producing the disease in Central America.‡ Other species of *Ornithodorus* have also been shown to be capable of transmitting the disease in man, and it seems very likely that *Argas persicus* transmits the relapsing fever which occurs in Persia. Thus, while the two microörganisms, *Spironema duttoni* and *Spironema recurrentis,* are so very similar that perhaps the only difference between them is one of virulence, the common intermediate arthropod host for them may be of a very different nature.

Inoculative Treatment of Paresis

Interest in the spironemata of the relapsing fevers has recently occurred in another aspect; namely, in the inoculative treatment of general paralysis. In recent years there has been a growing conviction that dementia paralytica is really a manifestation of disease produced by *Spirochæta pallida.* This was particularly emphasized by the discovery of Noguchi and Moore[24] and others of this organism in the brain and cerebrospinal fluid of such cases. Richter[25] has also recently pointed out that the cerebrospinal fluid or blood serum in practically every case of general paralysis gives a positive Wassermann reaction. Southard and Solomon,[26] Wandervers,[27] and others, have raised the question of whether there are different strains of spirochetes showing various degrees of malignancy, and as to whether there may not be a special strain of spirochete—a neural strain, that has a predilection for nervous tissue. It has been suggested that when a race is first infected with syphilis the lesions are chiefly of the cutaneous and osseous systems. Only in later generations do the vascular and nervous systems suffer. On the other hand, Richter remarks that if we question why only a certain percentage of syphilitic patients develop paralysis, we might also question why do only a fraction of tuberculous patients develop meningitis. He suggests that in those patients who develop paralysis, their protective capacity against *Spirochæta pallida* is wanting or decreased.

The treatment of general paralysis or syphilis of the central nervous system by means of inoculation with malaria or relapsing fever is not based on any definitely known principle, and is largely of an empirical character. Just what causes the clinical improvement in cases of general paralysis and other disorders of the central nervous system is not clear. Some observers have suggested that the high fever produced is a factor chiefly responsible for the favorable effect exerted by the inoculated infection, or that the malarial parasite produces toxins inimical to *Spirochæta pallida.* It has also been suggested that the improvement in the condition of the patient may be due to the production of antibodies by the human organism which counteract the effects or destroy the *S. pallida.* However, no definite proof has been given of the manner in which the favorable effects have been produced.

Apparently, Plaut and Steiner first employed the inoculation of recurrent fever in the treatment of general paralysis, stating that this disease has the advantage over malaria in that it is a milder affection and one that is self-limited. Moreover, its transmission can be more easily controlled. The inoculations can be carried out from animals to man or from man to man directly. Four or five fever crises, lasting sometimes one and sometimes several days, occur at intervals of from five to ten days. The fever seldom goes above 40.5° C. König,[28] who has inoculated thus far 26 patients, states that aside from minor associated symptoms such as pain in the limbs and headache, or a general feeling of discomfort, only in one case did anything serious occur. In this case, which was much reduced physically, transient cardiac weakness was noted. Of the 18 patients with general paralysis who were inoculated, 11 presented a complete remission; 3 were somewhat improved; 2 showed no improvement; and 2 have died, one succumbing to a paralytic attack following inoculation after having had numerous previous paralytic attacks, and the second to an

‡In *Ornithodorus talaje* the rostrum may be hidden by the winglike appendages of the camerostoma, while in *O. moubata* there are no winglike appendages, and the rostrum is not hidden. Also, in *O. talaje* the body is attenuated into a blunt point anteriorly, while in *O. moubata* the anterior portion is rounded and almost as broad as the posterior.

acute ileus. The improvement in the patients' mental condition was usually marked, and the disturbances of speech nearly always disappeared. How long the improved condition would continue the author was obviously unable to state. Plaut and Steiner, Mühlens and Kirschbaum,[29] and Sagel[30] also are in agreement that this method of treating general paralysis has its value, the course of the disease being favorably influenced in various ways. Sagel, who has treated 72 cases by inoculation with *Spironema duttoni,* also believes that this method of treatment is less dangerous than the inoculations with the malarial parasites. John[31] has treated 9 cases of multiple sclerosis by the inoculation of *Spironema duttoni,* but concludes that he cannot recommend this treatment as a method of choice in multiple sclerosis.

With reference to the treatment of general paralysis and syphilis of the nervous system by inoculation with malarial parasites, a few of the recent investigations may in this connection here be quoted. Kirschbaum[32] has reported upon 196 cases of general paralysis treated in this manner. Of these, 123 patients, or 63 per cent of the total, had remissions of the symptoms of varying grades; 61, or 31 per cent, were classed as having complete remissions; 42, or 21 per cent, as having fairly complete remissions; 45 were unimproved; 28 died; and 10 relapsed after good remissions. Gerstmann[33] has reported upon 1,000 cases treated in this manner. In his recent group of 294 cases, 112, or 38 per cent, obtained good remissions; 90, or 31 per cent, exhibited more or less incomplete remissions; and 92, or 31 per cent, were entirely uninfluenced by treatment. He believes the inoculation of malarial parasites more favorable for treatment than the inoculation of the spironema of relapsing fever.

In the United States, Bunker and Kirby[34] have reported upon the treatment of 53 unselected cases with general paralysis by means of inoculation with tertian malaria. Of the 53 patients inoculated, 11 have been treated too recently to allow an expression of opinion; 2 received a course of malaria on two separate occasions, and 1 failed to acquire the infection after repeated inoculation. Of the 39 patients remaining, 6 died during the actual treatment, 5 of these within a month of its completion, and 1 eight months subsequent to treatment after a slight remission of 5 weeks' duration. Three of the group of 6 died as a direct result of convulsions. In the case of the other 3, they state that death may have been hastened, but was hardly caused by malaria. Of the 32 patients alive at the end of from 3 to 13 months from the conclusion of treatment, 18 were considered as much improved and as exhibiting fairly complete remissions, 17 of which were discharged from the hospital, and 14 of which returned to their former occupations. Fourteen were considered unimproved, only 1 being definitely worse. Eldridge[35] also has recently reported upon 55 cases treated by inoculations with malaria of which 18, or 32.7 per cent, were improved at the end of a year; 21, or 38.1 per cent, showed no change; while 13, or 23.6 per cent, showed further deterioration, demonstrating the ineffectiveness of the treatment. It seems to be the consensus of opinion that the malarial treatment of general paralysis apparently produces a larger percentage of improved and arrested cases than other methods of treatment.

Rat-bite Fever

Rat-bite fever is of some interest to American physicians since cases have been observed in the eastern, southern, central, and western portions of the United States. Cases of the disease have also been reported in various other parts of the world. It seems probable that under the name of rat-bite fever several conditions may have been described, but it should be borne in mind that the site of the rat bite may sometimes become secondarily infected by other microörganisms. One form appears undoubtedly to be due to a spironema which was discovered by Futaki and others in 1915.[36] His discovery has been confirmed by a number of other investigators. This spirochete, to which the name *Spironema morsus muris* has been given, varies in length from 1½ to 10 microns. The number of coils may be as few as 1½ or as many as 8 or 9. The short forms, which probably result from recent division, have a single flagellum; while the longer ones usually have a flagellum at each end. Most observers have so far been unable to cultivate this organism. However, Onorato and Shimamine,[37] and Tejera,[38] claim that they have been successful in this respect. Onorato employed horse serum shaken with nucleinate of soda, while anhydrous carbonic-acid gas was passed through the mixture. He also employed hemolyzed rabbit serum. Tejera, however, claims successful results in cultivation with Noguchi's medium. Theiler has been unable to confirm these observations. Robertson[39] believes that the organism should be classified in the genus *Spirillum* rather than in either the genus of *Spirochæta* or *Leptospira.* This organism is also found in naturally infected mice and rats,

in which animals it apparently usually produces no disease.

Shattuck and Theiler,[40] of the Department of Tropical Medicine at Harvard University, during the past year, have reported the first case in the United States in which the presence of *Spironema morsus muris* has been demonstrated, and during the present year Lanford and Lawson,[41] and Munroe and Mooser[42] have reported cases of rat-bite fever in which this spirochete was demonstrated. The clinical symptoms following the bite of the rat are local inflammation of the bitten part, paroxysms of fever of the relapsing type, swelling of the lymph nodes, and often erythematous eruption upon the skin. All of these symptoms appear after an incubation period of from usually 10 to 22 days. The paroxysms of fever are irregular, and may occur at intervals of from 2 to 6 days. The spleen and sometimes the liver are enlarged. The spirochete can usually not be found by simple microscopic or dark-field examination in the peripheral blood, or even in film preparations made from the swollen lymphatic gland, as was the case in Shattuck and Theiler's patient. In this instance, it was necessary to inoculate mice and guinea pigs with the patient's blood. In the blood of these animals the spirochete was later demonstrated. Human cases have been reported following the bite of a cat, which animal had first been bitten by an infected rat. Rats serve as reservoirs for the infection, the organism usually producing no symptoms in them. Rat-bite fever usually eventually promptly yields to treatment with salvarsan or similar organic arsenical preparations, though sometimes relapses of the fever occur after the initial doses have been administered.

Yellow Fever and Hemorrhagic Jaundice

With reference to yellow fever, it is perhaps remarkable that its method of transmission by *Stegomyia calopus* (as shown by Reed, Carroll, Lazear, and Agramonte in 1900) was long recognized before the microörganism which causes the disease was discovered by Noguchi in 1918. It, however, is of historical interest that Stimson[43] as early as 1910 found in the examination of the tissues of a yellow-fever patient in Manáos a very definite organism which suggested to him a spirochete. He gave a brief description of this organism and stated that the object of his report was simply to invite attention to the findings in a single case of yellow fever, since no opinion as to the significance of it could be formed from such meager data. He suggested, however, that the organism be called *Spirochæta interrogans,* the name being suggested by the form somewhat resembling a question mark which the organism frequently assumed in his preparations.

Very closely related to *Leptospira icteroides* of yellow fever is *Leptospira icterohæmorrhagiæ* of hemorrhagic jaundice, or Weil's disease. The two organisms are not only very similar morphologically, but at times produce very similar or even identical lesions upon inoculation into guinea pigs. On the other hand, yellow fever and hemorrhagic jaundice are distinctly different, though symptoms of mild yellow fever may sometimes resemble those of hemorrhagic jaundice. Hemorrhagic jaundice was one of the diseases which was also brought particularly to our attention by the late war, where cases of it were observed on the northwestern front. However, the cases of the disease which I saw there were of a much milder character than some of those which have been described in other parts of the world, and clinically did not resemble yellow fever. The disease is generally characterized by fever of a relapsing type, jaundice, hemorrhages, and nephritis. The infection has been found to be distributed widely throughout the world. The specific organism causing it was discovered by Inada, Ido, Ito, Hoki, and Keneko.[44] This same organism was found shortly afterwards in the kidneys and urine of wild rats, not only in Japan but in Europe, United States, South America, and elsewhere. Rats, in fact, constitute reservoirs of this disease, and it is believed that the organism escaping in the rat's urine, and to a less extent in human urine, is the source of infection which probably takes place in man through the skin, as when walking barefoot on sodden ground, or when the hands come into contact with moist earth. It seems also likely that the infection may occur sometimes through the alimentary canal by drinking infected water. In animal experiments it has been shown that the organism is capable of penetrating the intact skin as well as the mucous membranes of the intestinal tract. This disease not only appeared among some of the men in the trenches during the war, but has also particularly been observed among planters, farmers, miners, etc., who are exposed to wet soil and stagnant water.

In connection with the transmission of the infection, it is particularly interesting that Uhlenhuth and Zuelzer[45] have isolated by culture from aqueduct water a spirochete which subsequently, after cultivation in blood serum, acquired distinctly pathogenic properties for animals. This spirochete in doses of from 2 to

4 c.c. of the culture, when injected intraperitoneally, produced in guinea pigs a disease which after 4 to 8 days caused death. The entire appearance of the animal so infected corresponded with that of Weil's disease. This organism also corresponded in different serological reactions with *Leptospira icterohæmorrhagiæ*. Buchanan,[46] in connection with the outbreak of Weil's disease in the Scottish mines, also isolated this organism from the slime and mud in one of the mines. This leptospira, when inoculated into guinea pigs, also produced typical hemorrhagic jaundice in these animals.

The specific organism of hemorrhagic jaundice is very slender, and its demonstration in the fresh state can usually be made only by means of the dark-field microscope. It measures 6 to 9 or even 12 microns in length and about 0.25 microns in width. Under the dark-field microscope it is minutely coiled, each coil appearing as a dot, and the whole body suggests a chain of refractile dots. It is actively motile and, as Noguchi has described, often bends itself in the form of a hook, giving the appearance of the letter "C" when the hooks are on the same side, or of the letter "S." It can be stained by the modified Romanowsky stains, though in such preparations it is difficult to demonstrate the coils. Noguchi established a new genus for this organism and that of *Leptospira icteroides* on account of the peculiar minute elementary spirals running throughout the body resembling the coil of a rope. Unlike most other spirochetes with the exception of *icteroides,* this organism resisted the destructive action of 10 per cent saponin.

The diagnosis of leptospiral jaundice in man may sometimes be made by finding the spirochete in the blood by the dark-field microscope between the 4th and the 9th day, and later in the urine from the 15th to the 24th day. When the organism cannot be detected in this manner, the diagnosis may frequently be made by inoculating the blood into the peritoneal cavity of a guinea pig in which illness follows after an incubation period of not less than 4 to 6 days, the animal showing conjunctival congestion, jaundice, hemorrhages, and albuminuria, and frequently succumbing to the infection.

During the war, as intimated, the mortality of this disease on the western front was low—not more than 4 to 5 per cent; in Japan, however, the mortality was as high as 32 per cent.

A large number of the cases of epidemic jaundice occurring in the United States evidently have another origin, as has been demonstrated by the investigations of Blumer, Jones, Minot, and others. It, therefore, would perhaps be preferable to employ the term "leptospiral or spirochetal jaundice" for the form to which we have just referred. Noguchi,[47] Hoffmann,[48] Wanstrom,[49] and others have shown, as intimated, that the lesions produced in guinea pigs infected with *Leptospira icteroides* and *Leptospira icterohæmorrhagiæ* are very similar. The lesions, however, due to the former microörganisms, are usually of greater severity, particularly in the liver and kidney. This is also true in connection with the human diseases, yellow fever and hemorrhagic jaundice, the necrosis of the liver cells, and the advanced fatty degeneration being almost invariably greater in yellow fever. Similarly, the lesions in the kidney, which consist of fatty degeneration and necrosis with a desquamation of the epithelium of the convoluted tubules, are particularly striking in the case of yellow fever. In hemorrhagic jaundice both the liver and kidneys may show only cloudy swelling of the parenchymatous cells or early fatty degeneration, but hemorrhages into the tubules and capsular spaces of the glomeruli are more frequent than in yellow fever. Noguchi, in a most careful study of different strains of *Leptospira icteroides* and *icterohæmorrhagiæ,* has shown that these two organisms may be differentiated by serological reactions, the phenomena of agglutination, the reaction of Pfeiffer, and complement fixation, as well as by the protective properties of immune sera. He concludes: "On the basis of the study of 13 strains, it seems probable that *Leptospira icteroides* and *Leptospira icterohæmorrhagiæ* are closely allied, but are nevertheless distinct in their immunological reactions. Perhaps the difference between the two may amount to that between subspecies or races." He lays stress upon the difference in their pathogenicity, inasmuch as *icteroides* produces chiefly icterus and nephritis, and *icterohæmorrhagiæ,* hemorrhage and nephritis, the icterus being less and the hemorrhage more prominent in the evolution of the latter infection.

The question then arises, why does *Leptospira icteroides,* which is so similar to *Leptospira icterohæmorrhagiæ* and produces on inoculation into animals such similar lesions, produce at times such a different clinical picture in man and such severe lesions in comparison with those produced by *Leptospira icterohæmorrhagiæ*. Is it merely a question of *L. icteroides* being an organism of greater virulence in man than *L. icterohæmorrhagiæ,* or is there in yellow fever an additional pathogenic factor which modifies the disease and renders the symptoms and the

lesions so much more severe? Is there (as there is for example in hog cholera) a substance in addition to the bacillus responsible for the entire pathological picture which may be of the nature of a filtrable virus acting in conjunction with *L. icteroides,* or is there another substance acting with it in some such manner as Bail conceived for the substances he termed "aggressins," (later shown to be free receptors of bacteria) ?[50] Opportunities for further investigation of yellow fever at the present time are not numerous, as the disease has almost entirely disappeared from nearly all parts of the world where it formerly existed.

Tissue Parasites

We may now turn our attention to the second group of spirochetes to which we have referred as giving rise primarily to local lesions. The microörganisms of this second group are especially tissue parasites. The Spironemata are not present in the blood in sufficient numbers to render possible their detection by microscopic examination, and even when general blood infection occurs, it is a secondary phenomenon. Infection with this group of microörganisms is due usually to direct contact, in contrast to infections with the first group, in which, as already mentioned, the method of transmission is often through some blood-sucking arthropod, as in the relapsing fevers and yellow fever.

The important representatives of the second group which have already been described are: (1) *Spirochæta pallida* (Schaudinn), or *Treponema pallidum,* the spirochete of syphilis; (2) *Spirochæta pertenuis* (Castellani), the spirochete of frambesia; (3) *Spirochæta schaudinni* (Prowazek), the organism found in tropical ulcer, which is morphologically identical with *Spirochæta vincenti* and *Spirochæta refringens;* possibly *Spirochæta bronchialis* (Castellani), which also may be identical with this species; (4) *Spironema noguchi* found in a dermal granulomatous affection, *Spirochæta calligyra* cultivated by Noguchi from condylomata, and *Spirochæta phagedenis* observed in phagedenic lesions on the genitals, which apparently are other less common and less pathogenic species. A number of other saprophytic spirochetes, or spirochetes possessing a very low degree of virulence, have been found in other chronic ulcerations of the skin (as, for example, occasionally in inguinal granuloma) which are not the primary etiological cause.

Tropical Ulcers

The commonest form of ulceration of the skin encountered in most tropical countries where heat and moisture prevails, is that which has been designated as tropical sloughing phagedena or tropical ulcer. During the third Hamilton Rice expedition up the Amazon and its tributaries in 1924, we had abundant opportunity to study anew this affection. It is a chronic ulcerative process of the skin and underlying tissues which at first spreads rapidly, but finally becomes more or less arrested in extent. It, however, rarely shows any tendency to heal if untreated. It occurs more commonly on the lower legs, but may appear on other parts of the body and sometimes upon exposed portions, as for example, the shoulders.

The lesion is usually single, but occasionally there may be a second or several ulcerations in the vicinity. The ulceration may be preceded by the formation of a vesicle which soon ruptures, leaving a sloughing surface; or a small papule may be first noticed which soon becomes inflamed and ulcerates. In either instance, the ulceration extends rapidly in diameter and depth through the skin and subcutaneous tissues, and, if untreated, a lesion anywhere from 5 to 10 cm. in diameter usually results. The margins of these ulcerations are not generally undermined or raised to a striking extent. The base of the ulcer becomes formed of sloughing tissue, and portions of this tissue are gradually cast off. The surface is usually bathed with purulent material assuming a gray or greenish-gray appearance. On wiping away this exudate, areas of granulation tissue may be seen springing up in different portions of the base of the ulcer or near the margins. When healing takes place, it occurs slowly from the periphery. No more detailed description of them would seem to be warranted.

In one of our cases in which there were several ulcerations, the lesions were complicated with infection with the larvæ of *Cochliomyia macellaria.* In this case, both of the legs showed edema, most marked at the ankles, but extending above the ulcers, two thirds of the way up the leg. There was moderate sensitiveness to pressure at the ankles and over the shins. In the lower ulcer on the right leg were large numbers of the very small maggots. The base of this ulcer was very uneven and fissured, gray in color, and the edges were not undermined. The remaining ulcers presented the usual characteristics of sloughing phagedenic ulcer already referred to.

A striking feature in the microscopic preparations of the ulcers examined, either under the dark-field microscope or in specimens hardened and stained with Giemsa's solution, is the pres-

ence of large numbers of spirochetes, identical morphologically with *Spirochæta schaudinni,* and associated with the fusiform bacillus. In addition to these organisms, in some instances one finds cocci and other bacilli, but only very rarely cocci in such abundance as the spirochetes and fusiform bacilli. A study of sections of the ulcers shows that the tissues at the surface have usually undergone a coagulation necrosis. There is frequently a layer of coarsely meshed fibrin in which large numbers of degenerating polymorphonuclear leukocytes, spirochetes, and fusiform bacteria are present. Other bacilli and cocci are also seen in much smaller numbers. The epithelium surrounding the ulcers generally shows thickening and downward growths so often observed in other chronic ulcerative processes. Acantholysis is sometimes striking. The epithelium is often markedly infiltrated with polymorphonuclear leukocytes. The corium may be edematous and infiltrated with polymorphonuclear leukocytes and with lymphoid and plasma cells, while the subpapillary layer often contains many fibroblasts. The walls and bases of the ulcerations consist generally of granulation tissue, the deeper tissues as well as the corium showing a marked infiltration with lymphoid and plasma cells. Vertical sections of the ulcers reveal a large amount of granular detritus and numerous foci of leukocytic infiltration, while the deeper layers consist of more dense fibrous tissue. Spirochetes and fusiform bacilli, and not infrequently other bacilli, are found, particularly in the areas where definite necrosis of the tissue has occurred. The spirochetes and fusiform bacilli are often encountered in enormous numbers in pure culture. In sections from some of the cases, the spirochetes and fusiform bacilli are found in abundance, not only on the surface of the lesions, but usually extending for at least several millimeters into the tissue surrounding the ulcer. Cocci and other bacilli are also usually encountered in the exudate upon the surface of the ulcers.

Numerous microörganisms have been described in earlier years as the cause of this infection. LeDantec (1898) considered the fusiform bacillus to be the etiological factor. Vincent (1896) found in 40 out of 47 cases examined, in addition to the fusiform bacillus which was encountered in enormous numbers in the pseudomembrane of the lesions, also spirochetes. The organisms were found particularly in the superficial portions of the lesions. Other bacteria were only occasionally encountered. He believed the lesions due to an association of the fusiform bacillus and spirochetes. Vincent has also since found these organisms in the condition known as Vincent's angina. He recognizes two forms of the angina: the first, a diphtheroid type characterized by the formation of a firm grayish false membrane resembling that of diphtheria in which there is only a superficial ulceration; the second, a type in which the membrane is soft and more white in appearance, and attended with more marked ulceration and surrounding edema, in which spirochetes as well as fusiform bacilli are present. The second type is allied to the condition found in tropical ulcer. Observations more or less similar to Vincent's have been reported by Smith, Peil, Patton, Prowazek, Brault, LeBoeuf, Lentz, Keysselitz and Mayer, Bruce, Wolbach and Todd, Shattuck, and others.

Keysselitz and Mayer in 1909 in a study of ulcus tropicum demonstrated both spindle-shaped bacilli and spirochetes in the superficial lesions. These organisms did not appear to penetrate into the cells. They considered the spiral organisms identical with *Spirochæta schaudinni* which Prowazek described in 1907, a synonym of *Spirochæta vincenti* (Blanchard, 1906).

Wolbach and Todd (1912) in the study of smears or sections of 20 ulcers in the Gambia found spirochetes in 9. These organisms were found in sections in 3 of the 9, and the spirochetes were usually associated with spindle or fusiform bacilli. The spirochetes showed considerable variation in morphology, but there was one type which was present in all of the smears in greatest numbers. In the Levaditi preparations the spirochetes were occasionally found in the granulation tissue at a considerable depth below the surface, but more often they could be demonstrated only in the surface epithelium and in the surface exudate. This is usually the case in other forms of dermal infection with spirochetes.

In connection with the study of the etiology of this affection in Amazonas, small pieces of tissue were removed from a number of these ulcers, and after they had been thoroughly rinsed in sterile normal saline solution were ground up in a mortar, resuspended in other saline solution, and the suspension injected subcutaneously into monkeys after bruising and injury of the skin, and also intratesticularly, after injury, into rabbits. Suppurative and ulcerative lesions were produced in some of these animals thereby, in which both spirochetes and fusiform bacilli as well as cocci were found present.

From our own observations, and from those made by other investigators, it seems probable

that *Spirochæta schaudinni* cannot usually establish itself in healthy skin or even in many aseptic wounds, but if the integument is bruised, burned, or otherwise injured, the circulation interfered with, and the vitality of the tissues otherwise impaired so that necrosis occurs, it may then sometimes gradually assume pathogenic properties, and a phagedenic ulceration result which assumes a chronic character. The recent observations of Davis and Pilot,[51] Van Nitsen,[52] and our own, are all in accord with this view. However, unless the tissues are injured primarily, the inoculations usually fail. Teague and Goodpasture[53] found that the virus of most cases of typical herpes zoster is not easily inoculable into rabbits unless the skin is first injured by the preliminary application of an irritant substance such as coal tar. However, this virus was found to vary greatly in virulence for the rabbit in different instances. In the experimental production of tropical ulcer in animals the virulence of the spirochetes and associated fusiform bacilli has also been found to vary greatly. Sometimes the application to an area of the skin of an irritant substance such as cantharides, affords the microörganism a more favorable opportunity to develop in the tissue.

In no instance were we able to produce ulcerative lesions in animals with the free-living or saprophytic spirochetes which we have sought for and found either in waters in South America or in insects. Only in the animals inoculated with material containing spirochetes and fusiform bacilli from cases of tropical ulcer were ulcerative lesions produced.

Transmission of Phagedenic Ulcer

The prevalence on the legs of this form of ulcer among people with bare feet and bare legs suggests infection through the skin. Cracks and abrasions of the feet and legs are common among natives, particularly among those who go barefooted. It has seemed possible that Europeans might become infected from bruises when wading in stagnant or other water in the tropics. In fact, Plehn and Lenz believed polluted water to be the cause of the infection, and Smits has held the opinion that humid earth in plantation drains carries the organism of the infection. The negative results obtained in animals with the spirochetes which we have observed in Brazilian waters obviously cannot be in any way considered conclusive. Even if *Spirochæta schaudinni* should exist in some of these waters, its detection and the demonstration of its presence by inoculation might be exceedingly difficult. Even in inoculations into the rabbit's testicle of material containing this organism, negative results are frequently obtained and, as has been emphasized, this is usually the case unless the tissues are primarily injured. It has been suggested that insects may transmit the disease from man to man, and Apostolides[54] has suggested that the mosquito may transmit it, as this insect always prevails where this form of ulcer is common. He mentions several cases in which he believes that the disease was transmitted by mosquitoes, but he gives no definite proof of this fact. Castellani and Chalmers have suggested that leeches may carry the infection. It has also been suggested that flies may transmit it directly, and while it seems probable that infection might sometimes occur in this manner, since the larvæ of flies are occasionally found in these lesions, there is, nevertheless, no direct experimental proof that the ulcer may be transmitted by any of these insects.

With reference to the presence of spirochetes in insects, Jaffe,[55] and Mühlens,[56] have observed a spirochete which they called *Spirochæta culicis,* and which resembles the spirochete of fowls, in the stomach and in the malpighian vessels of the larvæ and imagos of *Culex* mosquitoes. While Ed. and Et. Sergent[57] encountered spirochetes in the intestine of the larvæ of *Anopheles maculipennis,* Noc and Stevenel[58] also observed spirochetes of the refringens type in the intestinal tract of adult *Stegomyia fasciatus.* Pringault[59] observed in *Phlebotomus perniciosus Spirochæta phlebotomi* which measured 10 to 18 microns long and 0.25 microns thick, with 2 to 8 regular turns with pointed ends. Zuelzer[60] also notes that spirochetes have been found in *Simulium moelleri* which were about 0.4 microns thick and 5 to 20 microns (with an average of 14 microns) long, and which were mostly of the recurrent type. These were found also in the intestinal tract of this insect. None of these spirochetes have been demonstrated to possess pathogenic properties. During the expedition at different times we repeatedly examined *Simulium* and *Phlebotomus* and *Tabanidæ* for spirochetes and other parasites. We, however, were not successful in finding these organisms, and only in a few *Tabanidæ* were Rickettsia encountered.

Undoubtedly, filth, overcrowding, and malnutrition predispose to tropical ulcer, which is probably usually transmitted through direct contagion from man to man. Patients suffering from other wounds, and occupying beds under unhygienic conditions, and next to cases with tropical ulcer are said to contract it not infre-

quently, and evidence of the contagion is sometimes seen among school children who are in daily contact with one another. Sometimes a prick or scratch with an instrument may introduce the infection into the skin. The case of a nurse who had her arm accidentally scratched by an infected knife with which a tropical ulcer had been excised two hours before, is of interest in this connection. Although the wound was immediately washed with a solution of lysol, a papule later appeared which rapidly broke down into a typical ulcer.

Apostolides performed an artificial inoculation through the broken skin in two cases. In both of these cases *Spirochæta schaudinni* and *Bacillus fusiformis* were obtained in the lesions. In one, the lesion apparently began 48 hours after the direct inoculation. Pampana[61] inoculated pus taken a few minutes before from a tropical ulcer very rich in spirochetes and fusiform bacilli into another patient suffering from a lacerated and bruised wound of the ankle which was shown to be free of spirochetes or fusiform bacilli by repeated examination. The wound was dressed aseptically afterwards, and for about a week no change was noticed. Twenty-nine days after the inoculation, a typical tropical ulcer developed in the place of the former wound, and the first smear made from it showed numerous spirochetes and fusiform bacilli. The ulcer healed subsequently under appropriate treatment. The successful results obtained from the inoculations into animals have already been referred to.

In connection with the study of the ulcerative lesions of the skin observed in Amazonas, a particularly interesting form of dermal spirochetosis was encountered. From a study of this affection, the lesions of it should apparently be classified under the infective granulomata with syphilis and yaws.

Primary Spirochetal Lesions

In discussing these different forms of granulomatous spirochetosis which affect the skin, it will be of advantage briefly to refer to the pathology of the primary lesions in each instance.

In syphilis, the primary lesion begins as a papule, which, almost from the beginning, exhibits erosion of the surface epithelium, the underlying tissue becoming thickened and indurated due to the great accumulation of cells in the skin and subcutaneous tissue. The *Spirochæta pallida* infects first the epidermis, and is found chiefly between the epithelial cells of the epidermis, later infecting the lymph spaces and blood vessels of the corium. It lies particularly in the connective tissue in the lymph spaces between the cells and various fibrils, in the adventitia, and more rarely in the intima of the blood vessels. The inflammatory reaction which results from the presence of the microörganism and its toxin consists of endothelial and polymorphonuclear leukocytes, of lymphocytes, and occasionally eosinophils. Lymphocytes in the form of plasma cells may also be present in varying number, while mitosis of the endothelial leukocytes, fibroblasts, and lymphocytes is common. A striking feature is the accumulation of large numbers of endothelial cells around the blood vessels and lymphatics. They are particularly assembled about the arteries, especially when the smooth-muscle cells have undergone necrosis, when the internal layer is usually enormously thickened. Regeneration takes place in the corium both around and between the blood vessels, with infiltrations of endothelial leukocytes, lymphocytes, polymorphonuclear leukocytes, and particularly proliferating fibroblasts. This generally leads to a thickening of the intima, narrowing of the lumen, and sometimes obliteration of the vessel.

In yaws, the primary lesion is also a papule which soon becomes eroded and moist and exudes a yellowish secretion which dries into a crust. On removal of the crust, a superficial ulcer with clean-cut edges and lined with granulation tissue which bleeds readily is revealed. On examination of a section under the microscope, elongated papillæ may often be seen in the base of the ulcer, sometimes almost reaching the surface. Between these papillæ the epithelium is often thickened.

From a histological examination it is also seen that there is much hyperplasia and thickening of the epithelium, and below, a dense infiltration with plasma cells. Usually the *Spirochæta pertenuis* is found only in the epidermis. Recently, Goodpasture has demonstrated this organism also in the perivascular tissues in certain of the papillæ which extend far up into the thickened epidermis. However, he found the spirochetes present only in the terminal portion of the papillæ and in only a few of them.

A striking feature of the yaws lesion is the great thickening of the epidermis, and the degenerations which occur in the epithelial cells. In the later stages there may be hyperkeratosis. Much of the thickening of the epidermis is due to serous exudate and leukocytic infiltration. In the epidermis the leukocytes are often grouped in circular masses as in miliary abscesses, or they may be scattered diffusely throughout the epi-

dermis. The elongated papillæ are vascular, are frequently infiltrated with lymphocytes and leukocytes, and often show small hemorrhages. The corium is infiltrated with various cells. Particularly in the deeper portions and in the well-advanced lesions, plasma cells are very numerous and constitute the great majority of the infiltrating cells. In addition, there may be a few small lymphocytes and a moderate increase in fibroblasts. In contrast to syphilis, there is usually not the perivascular cellular infiltration which is seen in the corium in that disease.

The Dermal Form of Spirochetosis

I wish now to bring to your attention the dermal form of spirochetosis classified with syphilis and yaws in the infective granulomata. The condition, as was observed during the past year in a patient in the Amazon Valley, was chronic, and was confined to the feet. I have not observed it elsewhere in the tropics. A condition simulating this one in some respects from a clinical standpoint has been previously reported by Thomas, in Manáos in 1910, and Breinl, in Australia in 1911 under the name of "mossy foot." In neither of these was there a histological study made, nor was the cause of the disease ascertained, though Thomas reported that he was able to transmit the infection by inoculating a fragment of the human lesion subcutaneously into the nose of a rabbit, and that the condition appeared to be an infective keratosis. The writer has also studied in Manáos with Dr. George C. Shattuck a case of an affection similar to that described as mossy foot. However, in the cases of mossy foot, elephantiasis with lymphangitis has been a special feature of the condition, and apparently there has been a secondary infection with staphylococci or streptococci superadded to the primary infection. Microscopic and histologic examinations which have been made of the lesions of this case of dermal spirochetosis and of our case of mossy foot showed that the conditions are not identical, and a study of the cases which have been reported in the literature under the name of mossy foot shows that this condition may have a varied etiology, and is not a form of spirochetosis.

In the case of dermal spirochetosis under discussion, the lesions bore a superficial resemblance to epithelioma, but on closer examination they are seen to consist of papillomatous growths in which the individual papillomata are closely placed and form large confluent patches of granulomatous tissue which later ulcerate and then show a tendency to heal by the production of a large amount of scar tissue at the base of the lesions. The papillomatous lesions are often fissured, are tender, and may give a boggy sensation on pressure. They are vascular and bleed easily. The nodules vary in height from about 5 millimeters to 2½ centimeters, and in diameter from 1 to 3 centimeters. Some of the individual papillomata, however, have only a diameter of 2 to 3 millimeters. When some of the papules are removed, and moist microscopical preparations made from the cut surface and examined under the dark-field microscope, a picture is observed which roughly simulates that sometimes seen in the blood of mice in relapsing-fever infection just before the crisis, the spirochetes being agglomerated in starlike masses. However, in the preparations made from this dermal affection, the spirochetes are much more numerous than they are ever seen to be in the blood in relapsing fever, and are coarser and larger. Film preparations made from the tissue and subsequently hardened in absolute methyl alcohol and stained in Giemsa's solution also show enormous numbers of spirochetes. Film preparations made from the surface of the lesions in addition to the spirochetes show fair numbers of cocci and other bacilli. The fusiform bacillus which is always encountered in association with *Spirochæta schaudinni* in tropical ulcer is not present. The organism also always stains much more deeply than *Spirochæta schaudinni.*

Obviously, the spirochete present in this dermal lesion is also easily distinguished morphologically from *Spirochæta pertenuis* of yaws, and *Spirochæta pallida* of syphilis. Both of these organisms are smaller and much more delicate than the present one. *Spirochæta pallida* measures usually from 4 to 10 microns, with an average of 7 microns, while *Spirochæta pertenuis* measures from 7 to 20 microns in length. Both of these spirochetes have pointed ends. The present spirochete measures usually from about 14 to 30 microns in length. It is not only longer and thicker, but the spirals are not so fine, and the ends frequently give the appearance of a terminal deeply stained end or granule. Whether or not this granule is of the nature of a spore, is concerned with reproduction, and represents the so-called "infective granule" of spirochetes, it is impossible to say. Cultures were made by excising under as aseptic conditions as practicable small portions of the papules and dropping the fragments of tissue into tubes containing sterilized Amazon River water to which was added 15 to 20 per cent of rabbit serum. Before being inoculated, the tubes were warmed for an hour at 55° to 60° C. to inactivate the serum. By the third day numerous motile spirochetes were observed, but after this time the spirochetes became less nu-

merous. After six days, motile forms could no longer be seen. The cultures were always contaminated with other bacteria, sometimes both cocci and bacilli being present, which either gradually overgrew the spirochete or evidently rendered the media unsuitable for its further development.

Attempts were made to transmit the infection to animals. Small pieces of the papillomata were finely ground up in saline solution in a mortar, and a small amount of the fluid injected subcutaneously into monkeys, but no characteristic lesions containing spirochetes were produced. Inoculations of similar material were made into the rabbit's testicle. After 24 hours the inoculated testicle was reddened and swollen, but in a few days the swelling and redness subsided. After 12 days, however, the inoculated testicle became distinctly indurated, and gradually enlarged, finally showing a blackened and eroded area on the surface. The testicle was then excised. On microscopic examination of stained sections, there was found a central area of necrosis, surrounded by a zone of subacute, inflammatory reaction. Microscopic examination of film preparations made from the testicle at the time of the removal showed only an occasional coarse spirochete, as well as a few degenerating cocci and bacilli lying among the necrotic cells and leukocytes. Obviously, the successful production of the typical lesion in the rabbit was doubtful, as anatomically the more chronic human lesion was not produced in this animal.

Histologic examination of sections of the human granulomata shows marked hyperplasia of the epidermis, and areas of both acute, subacute, and chronic inflammation. Downgrowths of the epithelium are not infrequent, and mitotic figures are abundant. In places there is hyperkeratosis. Many of the epithelial cells show various stages of degeneration, some stain palely; others are vacuolated, with the nuclei uneven and granular. In some areas there is a well-marked necrosis of the epithelium. In others, the surface is covered with keratinized epithelium. The epidermis is in places densely infiltrated with leukocytes. There are numerous small foci of polymorphonuclear leukocytes forming miliary abscesses. In one instance, a group of polymorphonuclear leukocytes was seen within an epithelial pearl. In the center of the papillomatous masses there is a dense infiltration with polymorphonuclear leukocytes, large mononuclear leukocytes, and small lymphocytes. In other areas, plasma cells are abundant, which may lie singly or aggregated in clusters of three or four to some twenty-five or thirty. In some areas, eosinophils are present in considerable numbers. A few small atypical giant cells are observed. In other areas, the fibroblasts are increased in number, and mitotic figures are seen in a number of them. The granulomata are very vascular, but hemorrhages in the corium are not common. Some of the papillæ extend almost to the surface of the stratum corneum. They contain great numbers of small blood vessels. There is not, either here or elsewhere in the tissue, evidence of the perivascular infiltration and narrowing of the lumen of the vessels which is so usual in syphilis.

In the tissue hardened in formalin and stained by Levaditi's method, the spirochetes lie particularly in the epidermis, sometimes within epithelial cells. They, however, are also found in considerable numbers in the perivascular connective tissue beneath the epithelium. In these areas, the nuclei of the cells stain poorly or are indistinct and irregular. The tissue is edematous, and in places has undergone hyaline necrosis. There are not always large numbers of leukocytes about the groups of spirochetes. In fact, in some areas in which the spirochetes may be present in considerable numbers, there may be no accumulation of leukocytes immediately about their vicinity.

From the general character of the lesions and the situation of the microörganism, it seems very suggestive that the spirochetes give rise to a diffusible toxin which acts as a continual irritant in the surrounding tissue, and produces the acute, subacute, and chronic inflammatory changes already described. It would appear that it is the action of this toxin rather than the mere presence of the spirochetes themselves which particularly occasions the inflammatory reaction on the part of the tissue, the presence of the spirochetes being particularly associated with the areas of necrosis.

From the histologic study, it is obvious that the proliferative lesions, then, do not constitute true papillomata in the strict interpretation of this term. More closely are they allied to the condylomata, and still more correctly may they be classified with the infective granulomata, consisting as they do of hyperplastic growths caused by an infection, together with a secondary inflammatory reaction of an intense character and new formation of epithelium sometimes in papillary form. The whole tissue is more or less infiltrated with leukocytes which have wandered extensively into the epithelium, and in places the infiltration is very marked. However, each proliferative mass of tissue, except when

necrosed, is covered with epithelium, and although there is in places proliferation and downgrowth of the epithelium, except in those areas where the inflammatory reaction is very severe there is a distinct and regular line of reproduction between the epithelium and the stroma. From a histologic standpoint, there is nothing more striking or characteristic about the lesions. The condition does not suggest either tuberculosis or leprosy, and sections stained with Ziehl-Neelson's solution do not reveal acid-fast microörganisms. The condition obviously is also distinct from that produced either by *Spirochæta pallida* or *Spirochæta pertenuis.*

Thus, while these three affections may all be classified as infective granulomata and the lesions of all of them somewhat resemble one another in character, they obviously do not represent identical infections. Also, the spirochete encountered in this form of dermal spirochetosis is distinctive, as has already been demonstrated. As it apparently has not hitherto been described, we have proposed for it the name of *Spironema noguchii* in recognition of Dr. Noguchi's most important investigations and discoveries upon the *Spironemata* in relation to disease.

Treatment

With reference to the treatment of the spirochetal infections of man, the most favorable effects have been obtained generally from the intravenous or subcutaneous injections of organic arsenical compounds. Ehrlich and Hatta first demonstrated the specific effect of salvarsan in the treatment of relapsing fever and syphilis in 1910, and in the same year, the writer[62] described the specific effect of salvarsan in the treatment of frambesia or yaws. The great value of this preparation as a specific in the treatment of frambesia or yaws is often even more evident than in the treatment of syphilis. No other preparation than salvarsan, or neosalvarsan, or arsphenamin has been shown to be more satisfactory for the treatment of a number of the spirochetal diseases, though a number of other organic preparations of arsenic, antimony, or bismuth have been employed in some of the affections with almost equally good results.

All the spirochetal infections of man are favorably influenced by treatment with salvarsan, neosalvarsan, or arsphenamin, with the exception of yellow fever and hemorrhagic jaundice. The severe lesions which are produced by the toxin in these diseases early in the course of the affection preclude the use of arsenical preparations for their treatment. However, for the treatment of yellow fever, Noguchi has recommended an immune serum prepared with *Leptospira icteroides,* and Inado, Ido, and their associates have also recommended an immune serum for the treatment of leptospiral jaundice. Treatment of general paralysis and syphilis of the central nervous system by inoculation of *Spironema duttoni* and tertian malaria has already been considered.

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Symposium on Surgery of the Breast*

CARCINOMA OF THE LACTATING BREAST

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Carcinoma of the breast as commonly seen is fairly well recognized by the average practitioner, but when it occurs in late pregnancy or within a few months after parturition, the physician properly has in mind that the process is inflammatory. Hence, when the patient reaches the surgeon, as a rule several months after the onset of symptoms, one or more incisions have been made, and the diagnosis becomes quite obvious.

We are well aware that carcinoma of the breast is most common during the period of physiological involution; namely, from forty-five to fifty years. It is seen most in the large pendulous breast. When it occurs ten years after involution, it is far less malignant than ten years prior to the menopause. Very few cases operated upon prior to thirty years of age have survived the three-year period. We found no case, either in literature or by personal communication, in which carcinoma of the lactating breast survived the three-year period; in fact only one approached this time. Many succumbed within two or three months after the first symptoms were noted.

The several terms, such as carcinoma mastitoides, mastitis carcinosa, and acute something-or-other carcinoma, might well be abandoned for one which definitely indicates the condition to the average physician.

Apparently there is no distinguishable feature in the histology. The laboratory findings are variable. Small abscesses with positive cultures were observed in some; others were negative. It is well, therefore, not to add confusion by attempting to give a characteristic histologic picture.

In 1911 Schumann gave abstracts of eleven cases from the literature, and reported a case of his own. At least three of these cases may not have been lactation carcinoma because the patients were fifty, fifty-two, and fifty-three respectively. He gives detailed pathological reports of several cases besides his own.

Inflammatory carcinoma of the breast, as described by Burton J. Lee and Tannenbaum, probably differs from lactation carcinoma. In their list of twenty-eight cases, fourteen had never lactated. The clinical phenomena, however, are similar. None of their cases occurred during pregnancy or lactation.

DIAGNOSIS

The disease is seen during the childbearing period (sometimes in the latter months of pregnancy, but more often in the early months of nursing), prior to forty years of age, and at the height of physiologic activity. It begins as a localized area of induration, which extends rapidly and soon involves the entire breast. The localized "stony-hard" nodule is conspicuously absent. The skin early assumes a dusky red or purplish-red color. It becomes brawny, feels hot, of the "pigskin" variety, is fairly well marginated, and appears to be attached to the underlying structures. The previously pendulous breast is firm, increases rapidly in size, and projects like that of a virgin. Pain is not so severe as one would suppose from the appearance of the breast. There is no fluctuation, and but moderate tenderness. The nipple shows no retraction in the early stages. The axillary glands may or may not be palpable. The involved skin not infrequently extends well beyond the breast, and the other breast may become involved early. In fact, several cases of simultaneous invasion have been reported.

Conditions that may simulate lactation carcinoma are: mastitis (suppurative and nonsuppurative), sarcoma, gumma, tuberculosis, actinomycosis, erysipelas, other forms of carcinoma, and x-ray reaction. Only one of these, suppurative mastitis, should cause us much concern, and differentiation is important.

The onset in suppurative mastitis is acute, pain often is intense, and tenderness is marked. The skin is bright red and becomes dusky as inflammation progresses. It is never brawny, and fluctuation usually can be determined. There is definite elevation in temperature and leukocytosis. The differential count nearly always shows an increase in the polynuclear cells. In carcinoma, the temperature is normal or slightly elevated. The leukocytes may be slightly increased, and the differential count frequently shows an increase in the mononuclear cells. The diagnosis should be made without section for histologic study as has been suggested.

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

Treatment

Inasmuch as most of the cases which had been operated upon died within a few months, and many of the cases showed early involvement of the other breast, we strongly recommend the use of radium and x-ray. Metastasis occurs very early and may be quite general; consequently, toxemia is noted. Early diagnosis, with prompt and appropriate treatment may prevent it. Thus far, neither operation nor irradiation have been successful in avoiding metastasis. X-ray therapy of the supposedly free breast might prevent involvement. At any rate, it would check lactation and make it less likely to be invaded. One may ask if labor should be induced when carcinoma is found in late pregnancy. This question ought to be decided by the obstetrician, surgeon, and roentgenologist.

We are giving a synopsis of three cases which were treated in the Pennsylvania Hospital with radium and x-ray. In two cases the growth diminished with amazing rapidity. The third was reduced considerably. Metastasis occurred very early in two; in fact it was evident when treatment was begun. The amazing results obtained in Case I by Dr. W. Estell Lee prompted me to employ the same method in Case III. The rapidity with which the growth disappeared was almost dramatic, although the patient soon succumbed from metastasis and consequent toxemia.

The radium needles were placed 1 cm. beyond the border of the breast and 2 cm. apart, thus surrounding the entire breast. As we did not have a sufficient number of needles to complete the circumference at one sitting, the needles were removed in eight hours and reinserted until the arc of the circle was completed. A week or two later another circle was made two cm. within the first line. This was done three or four times in each case. The radium treatment was alternated with the x-rays, preceding or following, as advised by Dr. Bowen, the roentgenologist. Most needle insertions were done under nitrous-oxid-and-oxygen anesthesia, novocain infiltration being used a few times. No marked untoward reactions were noted.

Case Reports

Case 1.—A married Irish woman of thirty-four, who had had four children and two miscarriages, was well up to September, 1922, when she noticed a lump in the right breast. At this time she was seven months' pregnant, and thought the mass was due to her condition. When her baby was born, the swelling and soreness diminished temporarily. It soon enlarged, and she had the breast incised two weeks before admission to the Hospital on January 15, 1923. No pus was obtained.

She was pale and moderately undernourished, with positive findings confined to the right breast. This breast was dusky red, large, hard, and partially fixed to the chest wall. Axillary glands were palpable. There was no drainage from the incision made two weeks before. Urinalysis (10 examinations) was negative, and the x-ray showed no evidence of metastasis in the lungs.

On January 16th and 17th, under nitrous-oxid-and-oxygen anesthesia, radium needles were inserted, using eight of 12½ milligrams each for eight hours, placing them 1 cm. beyond the border of the breast and 2 cm. apart. This was done three times, thereby completing the circumference. The patient received twenty-four hundred mgm. hours. There were three subsequent treatments, the last one on March 29, 1923, a total of 5,200 mgm. hours. X-ray treatments were alternated with the radium.

On admission January 15, 1923, the oblique diameter of the breast from right shoulder towards umbilicus was 14 inches; on January 30th, it was 8 inches; on February 7th, 7 inches; and on March 18th, 6 inches.

The patient was readmitted at monthly intervals for x-ray treatment. On June 12th a nodule was excised from the left breast. It was diagnosed as adenocarcinoma. A very small mass remained in the right breast, but on consultation with several roentgenologists, pathologists, and surgeons, it was decided not to remove it.

The patient died January 15, 1924 (approximately sixteen months after the tumor was first noticed), from extensive metastasis.

Case 2.—A married colored woman of 29, mother of five children, the last being born in April, 1924, struck her right breast in an automobile accident four months before admission on March 26, 1925. A lump appeared which grew rapidly, and became hard and moderately painful. On the advice of her physician, she rubbed it with camphorated oil, and applied poultices of flaxseed. Two weeks before admission, she noticed a lump in the left breast. The right breast had then ceased to lactate, although the left one was still secreting milk on admission.

The breast was tense, of a dull red color, felt solid throughout, was of the consistency of a grapefruit, and the skin felt thickened. The breast moved *en masse* on the chest wall, and was tender to palpation. The nipple was not retracted. There was no fluctuation, but there was a slight discharge from the nipple. The left breast showed some thickening of the skin in the areola, with a papular type of skin over it. The axillary glands were not palpable, but there were two nodules on the skin over the sternum. The temperature was 100°, the pulse 110, the hemoglobin 75 per cent, and the white blood corpuscles numbered 10,400. The Wassermann was negative.

The diagnosis was carcinoma in the lactating breast, with early involvement of the left.

On March 29th, there was moderate pain in the right breast, and vaginal bleeding had occurred for the past eight days. April 4th, sixteen radium needles of 10 mgm. each were placed at the outer circumference of the breast, and left for eight hours. Eight hours later, seven needles were placed in the arc of the circle not covered by the six needles, and were left for eight hours. On the 7th, deep x-ray therapy was applied to the breast. Its size seemed to have decreased. April 28th there was severe pain in both breasts, and the vaginal bleeding continued. The right arm was swollen and painful. May 3d, the left breast appeared prominent and began to look like the right. There was in-

volvement in the axilla, and the right arm was swollen to the elbow. By May 9th, it was believed that the patient had carcinoma of the cervix. On the 22d the breast was beginning to ulcerate, and on the 26th the vaccination scar was sloughing. The patient died on June 9th.

Autopsy revealed carcinoma of the lactating breast, with extensive metastasis to subcutaneous tissue of the chest, pleura, lungs, liver, retroperitoneum, ovaries, and uterus, with fluid in the abdominal cavity (carcinomatosis), and pulmonary edema.

Under the microscope a tendency was observed towards arrangement of the tumor tissue in lobules, with thin strands of connective tissue separating the proliferating epithelial cells. These were arranged in the form of glands with narrow lumina. The growth was invasive and without bounds, tending to extend in the direction showing the least resistance. The individual carcinoma cells were flat, polygonal, frequently rectangular, with a pale-blue-staining cytoplasm and large, round, deeply staining nuclei almost filling the cell. Numerous cells were seen.

CASE 3.—A married Jewish woman of 37 years, mother of five children, the youngest 7 months old, noticed a lump in the outer aspect of the left breast six weeks prior to admission on April 4, 1923. She applied various remedies. The condition of the breast was similar to that described in Case 1. The liver was enlarged, and extended 5 cm. below the costal margin. X-ray treatment was given on April 4th and 5th, and radium treatment on the 6th, 11th, and 22d, covering 10,000 mgm. hours.

On May 5th there was absolutely no clinical evidence of a growth in the left breast, although the liver became of enormous size before death.

CONCLUSIONS

1. Carcinoma of the lactating breast is a most malignant type of tumor. Treatment has been futile so far as metastasis is concerned. The only hope lies in its early recognition.
2. Operation is contraindicated.
3. The diagnosis can be made fairly early if the clinical phenomena are borne in mind. An ordinary and differential blood count is of the utmost value.
4. The medical student and general practitioner should be taught that this type of carcinoma differs radically from that generally seen, and that it occurs during the acme of physiological activity of the breast.
5. When in doubt, the aspirating needle should be used; it does less harm than the scalpel.
6. X-ray and radium will do little harm if there should be an error in diagnosis.

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SURGERY IN BREAST INFECTIONS

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In presenting the subject of breast infections, we are not offering anything new or original on the matter; in fact, some of the points to be emphasized are so old that they are often neglected, and sometimes, we fear, are altogether forgotten in the management of these conditions. A symposium on breast surgery derives its first importance from the fact that the mammary gland is so commonly the site of neoplastic disease, but so important are infections of the breast that we feel more attention should be directed toward both the early diagnosis and the treatment of these conditions.

There is more often evidence of neglect and bad judgment in the treatment of diseases of the breast than in almost any other phase of surgical practice. In many instances, ignorance and reluctance on the part of the patient to make known her ailment to her physician is responsible for it. In other instances it is ignorance or bad judgment on the part of the medical adviser. In both cases, education is needed. The patient must be taught the significance of a lump or of pain in the breast, enlarged glands in the axilla, the danger of abraded skin surfaces, discharging or cracked nipples, and to appreciate fully the protection in cleanliness. Above all, she should promptly seek the advice of a physician, and demand a thorough examination. The physician will have equipped himself with the knowledge and experience necessary to guide her promptly and properly to the measures of relief that are justly hers, be they surgery, x-ray, radium, medicine, or other agents.

The various infections that may occur in the breast can here be only briefly considered. The pyogenic infections caused by the staphylococcus aureus and the streptococcus are by far the most common. They result in acute mastitis or abscess formation. If the collection is just beneath the areola, it is termed a subareolar abscess. If it is more deeply situated within the glandular tissue, it is referred to as intramammary abscess. If it is located behind the gland, it is called a retromammary abscess. When not properly treated, a deeply situated intramammary abscess may rupture into the retromammary space, producing the so-called "shirt-stud" abscess. This classification is referred to for the sake of clearness in regard to treatment. Areolar abscesses are superficial, and tend to point through the skin. Drainage should be established by making a radiating incision, or incisions, away from the nipple. The anterior and more superficial intramammary collections are drained by incising through the roof of the abscess on a line radiating from the nipple. Retromammary abscess and deep intramammary abscesses, single or multiple, are best dealt with by making an incision along the inferior or outer margin of the breast (depending upon the loca-

tion of the abscess) and then reflecting the gland upward and inward from the pectoral fascia. This method was first described by T. Gaillard Thomas in 1882 (*N. Y. Med. Jour.,* XXV,

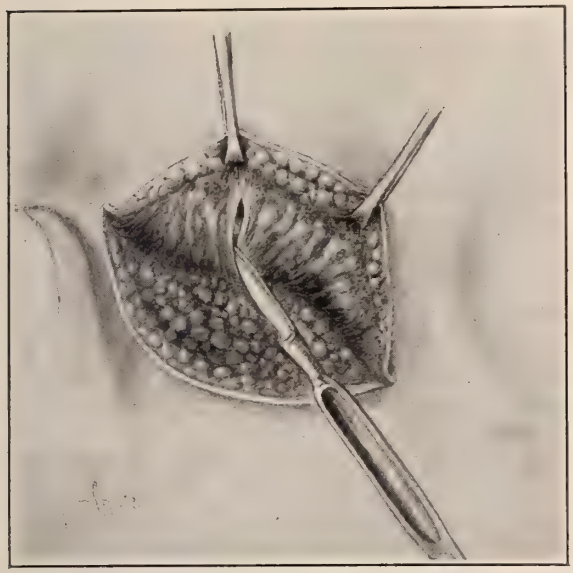


Fig. 1. Thomas-Warren incision adapted to drainage or exploration of breast.

337), and later by J. Collins Warren in 1905 (*J. A. M. A.,* XLV, 149) and again in 1907 (*Ann. of Surg.,* XLV, 801). Demarest has utilized the same principle by making the incision along the inferior fold of the breast instead of going through the outer thoracicomammary fold as recommended by Thomas and Warren.

The abscess or abscesses are then located and opened through the posterior surface of the gland by making radiating incisions from the center of the breast of sufficient length to insure good drainage. Carrel tubes or small catheters are left in position for Dakinization of the wound. To prevent the breast from collapsing on the chest wall, vaselinized gauze or rubber-covered gauze drains are placed in the thoracicomammary incision for a few days to facilitate drainage. In cases of diffuse infection, with multiple abscess formation, it may be necessary to establish through-and-through drainage with a radiating anterior incision through the breast connecting with the incision below, as above noted. In the extensive infections, we feel that this method gives better drainage, obviates surface scars to a considerable degree, and minimizes scar-tissue formation in the breast, which is a factor to be considered in the liability of the breast to future disease. After drainage has been well established, Carrel-Dakin treatment should be instituted routinely. We believe Dakin's solution to be the most effective germicidal agent in combating these infections. When desired results are not obtained from it, failure may usually be ascribed to old or improperly prepared solution, or inefficiency in its application. We prescribe its use every two hours during the day, and every three hours at night. In the severely infected cases with miliary abscess formation there may be associated blood-stream infection. In these cases, blood transfusion and the intravenous use of mercurochrome may be practiced to advantage.

In considering other infections of the breast, we shall refer briefly to tuberculosis, syphilis, actinomycosis, and sporotrichosis. Tuberculosis of the breast is an unusual condition. To date there have been about two hundred cases reported. It may be primary or secondary to disease of the ribs, sternum, pleura, lungs, or lymph glands. Its incidence in comparison with the total occurrence of other breast diseases is probably between one and two per cent. This was shown in a series of 1,830 cases of diseases of the breast collected at St. Bartholomew's Hospital by Sidney Scott, where twenty-four were tuberculosis (Deaver and McFarland).

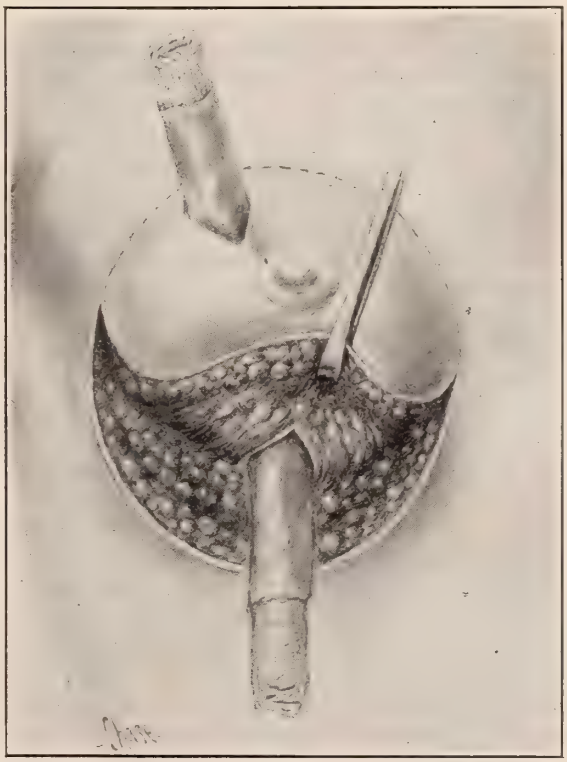


Fig. 2. Demarest incision adapted to drainage or exploration of breast.

Deaver and McFarland, in their able treatise on "Diseases of the Breast," say the most frequent initial symptom of tuberculous mastitis is a painless lump. This was also true of both

malignant and benign tumors in their series of cases. Tuberculosis of the breast runs a much more rapid course than carcinoma. The rapidity of development, changes in the size and consistency of the tumor, early axillary lymph-node involvement, and a strong tendency to the formation of abscess and fistulas, with retraction of the nipple, are the suggestive signs of mammary tuberculosis. Accurate diagnosis is reached with difficulty, and the majority of the cases thus far operated upon have been regarded as cancer before operation. Several different pathological types of mammary tuberculosis have been described, such as acute miliary, nodular, sclerosing, etc. Several cases have been reported associated with carcinoma of the breast. The most satisfactory treatment, recommended by various authors, is that of complete excision of the breast with any involved lymph nodes that may be present, and it would seem, from a review of the literature, that no other type of tuberculosis yields so satisfactorily to surgery as does this. This should be carried out as early as possible, and in conjunction with constitutional treatment and hygienic measures usually employed in the general treatment of tuberculosis.

Syphilis may present itself in the form of the initial lesion, a mucous patch, a diffuse mastitis of the secondary stage, or gumma formation. Prompt recognition of syphilis of the breast of any of the above-mentioned types may not be easy at first. It is difficult to make a differential diagnosis between gummata, the infiltrating mastitis of the secondary stage, and carcinoma; but with proper investigation and laboratory aid, and a therapeutic test with antisyphilitic treatment (if there is doubt after a positive Wassermann is obtained), the situation will be clarified. It must be constantly borne in mind in diagnosing breast lesions that syphilis and carcinoma are frequently associated, and undue delay must be avoided in establishing a diagnosis when carcinoma is present. It is well to remember that in operating for carcinoma, in the presence of active syphilitic infection, the postoperative course is usually much more satisfactory when the patient is thoroughly under the influence of antisyphilitic treatment. Naturally, the treatment of syphilis of the breast is the constitutional treatment of syphilis generally.

Actinomycosis and sporotrichosis are very rare conditions, and are due to fungi of different varieties. Diagnosis of either condition in the early stages is rarely possible. Either may be mistaken for cancer, tuberculosis, or syphilis, when only a lump is present, and before softening and ulceration have taken place. Only by laboratory aid can a positive diagnosis be made. Excision of the involved tissue with the free administration of iodids internally, and the use of Lugol's solution locally, are the measures employed in the treatment of both conditions.

In conclusion, we should like to emphasize the importance of early diagnosis, and early and proper surgery in the treatment of acute breast abscess. It is not unusual to see a diffuse breast abscess being treated as a "caked breast," nor is it unusual to see a buttonhole incision being made to cover the sins of omission and neglect in these cases. We advocate a more general use of the Thomas-Warren incision and that of Demarest, because they fulfill so admirably the demands for drainage in the deep-seated mammary and retromammary infections, and at the same time lend ample opportunity for exploration in the case of mistaken diagnosis.

2020 Spruce Street.

X-RAY TREATMENT OF INOPERABLE CASES AND POSTOPERATIVE TREATMENT

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The position of x-ray therapy in carcinoma of the breast is certainly second to surgery in importance today, regardless of the stage of the disease, and it is first in importance in cases which are not suitable for surgery, or in cases of recurrence or metastases.

The question as to whether carcinoma of the breast is operable is a variable one; that is, it varies with relation to the judgment of different surgeons. One surgeon may consider a case inoperable if any glands can be palpated in the axilla; another may require extensive axillary-gland involvement; and still a third may operate even if there is enlargement of the supraclavicular glands, as well as the axillary. We are not here to discuss the subject from this point of view. We must keep in mind, however, that occasionally metastases develop early in the progress of the disease, and such lesions may be found either inside the chest or in some portion of the bony skeleton. The x-rays are of definite value in determining whether or not there are metastatic lesions in the chest or bones, and such studies should be made routinely before operation.

Evidence of metastases either in the bones or within the chest should classify the lesion as primarily inoperable. At any rate, both the metastatic areas and the primary growth should

have x-ray treatment in effective doses, and operation should be deferred until the effect of the treatment can be determined. A percentage of such cases might then become operable if it were found that the metastatic lesions yielded definitely to the treatment. We believe that surgical removal of the primary growth under such conditions, providing no other complications exist, might give the patient an increased chance for prolongation of life, and perhaps for an abatement of the metastatic distribution.

Naturally, the more advanced the disease, the less is the value of any treatment. In advanced inoperable cases, where there is much destruction of breast tissue, and where the lesion is firmly attached to the chest wall or the glandular involvement is massive, or where the intrathoracic lesions are extensive, cure must not be expected, either by means of the x-rays or surgery or both. The results to be expected in such cases, providing the patient still has strength to withstand the reactions from the x-ray treatment, are about as follows: first, relief of pain (this is striking at times, and we have seen patients discontinue the use of morphin because of such relief); second, control of hemorrhage and sloughing; third, retardation of the progress of the disease, both in the primary growth and in the metastatic areas; fourth, restoration of hope and to some extent of the social status of the patient; fifth, occasional conversion of an inoperable case to an operable one; and sixth, prolongation of life and usefulness. There is by no means any uniformity in the response of such patients to x-ray treatment, but it is a certainty that a large percentage of them, even in very advanced stages, get quite worth-while benefit from the treatment.

One case may be cited to illustrate this point.

Nearly two years ago, a patient was referred to me for x-ray treatment with the hope of relief from pain, discharge, and rapidly oncoming weakness. Practically the entire right breast was destroyed, leaving an area over the right chest in which one could almost bury a fist, actively ulcerating and discharging. There was a considerable quantity of fluid in the right pleural cavity, as well as thickening at the roots of the lungs. Treatment was begun in spite of the advanced stage of the disease, and has been continued at intervals up to the present. A recent letter from her family physician reads as follows: "I visited Mrs. B. at her home a few days ago and was amazed at her continued improvement. She gained about eighteen pounds in weight during the past summer. She intends to see you as soon as it is agreeable to you." Up to the present, two years of comfort have unquestionably been the result of x-ray therapy alone. One would not venture to measure what may remain for this patient. We are certain that some of the disease remains. There has not been at any time any possible surgical opportunity in her case.

The technic of the treatment need not be discussed except to say that, as a rule, in treating an inoperable carcinoma, one should give maximum doses and manifest a considerable amount of courage in this respect. The treatment should be continued at intervals, according to the response in the individual case. Occasionally, help may be had from the use of radium in isolated recurrences, or in areas that are not so easily accessible to direct x-ray radiation; also, fulguration may sometimes be of definite help.

Recurrences and metastases are to be considered as inoperable.

Many surgeons routinely send their patients to the roentgenologist for postoperative x-ray therapy. We are heartily in accord with such a procedure. We believe that the time to give such treatment is when the wound has healed sufficiently so that there will be no danger of its separating because of the action of the x-rays on the young scar tissue, and are recommending anywhere from two to four weeks after operation.

The technic of postoperative treatment should, as a rule, be somewhat different from that used in operable cases. For instance, in operable cases one is justified in giving maximum doses of rays from high-voltage currents and heavy filtration, even though there is some risk of doing damage, temporarily at least, to the lung tissue. The breast tissue and the tumor mass offer a considerable protection to the lung tissue, and when the breast and tumor are large, this protection is considerable. After removal of the breast, massive doses of highly penetrating and much filtered radiation in large doses will almost certainly do temporary damage to the lungs and may bring about permanent changes, so that for routine postoperative therapy we recommend the so-called nine- or ten-inch-spark-gap treatment with aluminum filtration rather than copper. Such treatment should be repeated at intervals of from four to six weeks, so that three or four series may be given. One should, of course, keep careful radiographic records as to whether there are metastases, and the patient should be kept under observation at intervals of from two to three months for an indefinite period after treatment is discontinued.

The action of the x-rays is not altogether clearly understood, but the burden of evidence, as the result of biological experiments in the hands of those who are qualified to make them, is that the x-rays have a profound effect upon most malignant tumors when they are exposed to the proper amount of radiation. There seems to be actual destruction of the cancer cells, especially those near the surface. There develops

a certain fibrosis surrounding the growth which acts as a barrier to the spread of the growth, and under certain conditions the blood vessels undergo such changes that the growth no longer gets a sufficient amount of nourishment to grow well. It has been experimentally shown that tissue exposed to radiation becomes a more or less unfavorable soil for the growth of transplanted tumor tissue. It has further been shown that tumor tissue exposed to radiation before removal shows a definite tendency not to grow when transplanted into areas that have not been radiated; but tumor tissue radiated, after removal, even to large doses, seems to grow fairly well if transplanted. In other words, the indications are that a great deal of the benefit is derived by exposure of tissue adjacent to the tumor, as well as to the tumor itself.

The results of the most recent investigations tend to lend some hope that our best results in the future will be obtained by the proper radiation of all cases, and especially of early cases prior to operation. Certainly this should be done where there is evidence of glandular involvement, whether it is extensive or not.

235 South Fifteenth Street.

BENIGN TUMORS OF THE BREAST

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It is a fair presumption that the future development of surgery will not be along the lines of improved operative technic or in the invasion of new fields, but rather in more careful diagnostic methods, in the estimation of operative risks and their elimination, and in the exercise of judgment in regard to the type and extent of the operative procedure indicated in the individual case. A fair illustration of this statement is offered by surgery of the breast.

The operation for cancer of the breast has, during the past forty years, been extended and improved to such an extent that any further development can hardly be imagined. The great plea of the surgeon during all this time has been that the cases be subjected to operation as soon as the tumor is discovered. Gross, Halsted, Willy Meyer, and Sampson-Handley were among those who labored to impress upon the profession the importance of early, thorough, and complete removal of the breast and the glands draining it. One of the effects of their efforts was a great improvement in the final results of the operations for cancer of the breast. But in their zeal to operate early and thoroughly, surgeons became rather careless in regard to diagnosis, and many made little attempt to differentiate from cancer any of the benign growths except the hard adenomata occurring in the breasts of young women. Any other mass in the breast of a woman in the neighborhood of forty years or beyond was considered, by some at least, a sufficient warrant for the removal of the whole breast, thus "saving the woman from a cancer death." Such an attitude is but an acknowledgment of ignorance, and brings discredit on surgery. The responsibility for the diagnosis and the choice of operation rests with the surgeon, and not with the physician referring the case. In recent years there has, fortunately, been a great deal written and said about the importance of differentiating the benign from the malignant breast tumors, especially by Bloodgood. But in spite of this, breasts are still being unnecessarily sacrificed because of the presence of benign tumors and cysts, and it has seemed appropriate again to call attention to the importance of diagnosis.

In order to determine the incidence of benign growths in the breast, I have analyzed my last two hundred breast operations, excluding the inflammatory conditions, with the following result: carcinoma 108, sarcoma 2, cyst 47, chronic cystic mastitis 16, fibroma and adenoma 27. It will be seen, then, that (at least in our experience) the nonmalignant breast conditions requiring surgical treatment are nearly as common as the malignant, 90 to 110, or 45% of the 200. One important additional consideration in this connection is the small group of cases which comes to us because of supposed breast tumors, or because of pain in the breasts, but which do not require any surgical treatment. Of this group something will be said later.

The diagnosis of benign tumors is not as a rule difficult, and where it is, the decision should not be made by incision, but by excision with considerable surrounding breast tissue. The macroscopic appearance will usually be sufficient to determine the nature of the tumor, but it may have to be supplemented by a not too hurried examination of frozen sections. The clinical history must always be considered in connection with the gross section of the tumor. These two are often more reliable than the frozen section, and decision again rests with the operating surgeon.

Cysts of the breast are very common, as our experience shows, and rarely undergo malignant change unless subjected to improper treatment or irritation. They are most common in women who have not born children, and occur usually between the ages of 30 and 45. As a rule they are single, but may be multiple, and sometimes

occur simultaneously in both breasts. This condition represents the only illustration of "spontaneous disappearance of a tumor" of the breast with which I am acquainted. The patients not infrequently tell you that at some previous time they had a similar tumor and "it went away." Such a history should not be doubted and is explained by rupture and absorption of the cyst contents. It is a well-known fact that puncture of these single cysts often results in a permanent cure. Many years ago McGraw recommended puncture, and I practiced it in three cases without any recurrence. I discontinued it, as did everyone else, because of the fear of cancer. A cyst is often a painful condition, and certainly is if it is of rapid development. The pain and soreness are aggravated by menstruation. Palpation reveals two things: circumscription and fluctuation; the one when the breast is gently rolled on the chest wall under the hand, and the other when the tumor is held against a rib and palpated with two fingers. Bloodgood has advised that the examination of the breast always should be done with the patient lying on the back. The detection of fluctuation is sometimes difficult when the breast is large and the cyst small, and is often overlooked by one who has not developed his sense of touch. Many of these cysts in which fluctuation was readily obtained have been sent to us diagnosed as cancer. Enlargement of the axillary lymph glands is never present unless suppuration has occurred in the cyst, which is extremely rare and is easily determined by the local signs.

Chronic cystic mastitis is not so easily diagnosticated as either cancer or the single cyst, as the physical signs are often more vague. This condition occurs, as do cysts and cancer, about middle adult life. The patient complains of pain or discomfort in the breast, especially at the menstrual period, a history rarely obtained in cancer. The area of the breast involved is usually the lower and outer quadrant, and often a certain amount of induration and sometimes lobulation of the breast tissue can be felt in this region. If these typical signs are present, the diagnosis is not difficult. They are often wanting when the subjective symptoms of pain, discomfort, and a sense of weight are present. Many of these patients are suffering from cancerphobia, or the menopause, or both, and in the absence of some physical sign there is no reason to operate simply to relieve their anxiety. Every conscientious surgeon has always a number of these patients under observation, and in the large majority nothing ever develops. Such patients should not be turned away with the statement that "nothing is wrong" and to "forget it," but should be advised to present themselves every two or three months for examination. The interval can be increased if nothing has developed. This is far better than to subject them to an unnecessary operation. A discharge of serum or of blood from the nipple used to be considered evidence of malignancy. Such a symptom is not rare after the menopause, especially if it is the result of surgery, radium, or the x-rays, and is of no serious significance. I have watched many of these patients for years without any further development. Of course, if the discharge is accompanied by ulceration of the nipple or by a mass under it, operation is indicated.

The fibromata, or more correctly speaking, the adenomata, are easily recognized. They occur in young adult life or in adolescence, may be single or multiple, are hard or tense, are freely movable, slipping about under the examining fingers, are smooth, and rarely painful. The papillary-cyst adenoma is in my experience a benign tumor, and has been included under the adenomata.

Any one of the following symptoms, fixation of skin, indefinite outline (except in chronic cystic mastitis), nodular hardness, retraction of nipple, and of course glandular enlargement, should preclude a diagnosis of a benign condition and any delay whatever in the performance of a radical operation.

What is the best method of operation for the benign conditions of the breast? For years, my answer to this question has been the Gaillard Thomas or Warren incision (Giordano told us in Venice last summer that this incision was employed by Jean de Vigo 400 years ago for the purpose of "conserving beauty") along the lower and outer periphery of the breast, its separation from the pectoral muscle, its elevation so that the whole under surface of the breast can be seen and felt, and the excision of a certain amount of the surrounding breast tissue with the tumor or cyst. The excised breast tissue should be triangular in shape, the apex at the center, and the base at the periphery of the breast. It is well to mark these points with traction sutures or forceps before beginning the excision, as it greatly facilitates the later approximation of the cut edges of the breast. If this approximation is not done accurately, puckering and deformity of the breast will result. In the cases of cyst or cystic mastitis, this method will often reveal the presence of unsuspected small cysts or the involvement of more of the breast than external examination indicated. When this further involvement is discovered, it is best to remove the whole breast

with or without the overlying skin and nipple. In thin women the preservation of the nipple by doing a subcutaneous removal of the breast gives a very satisfactory cosmetic result, and meets the demands of surgery. In the case of large breasts, or very fat patients, the cosmetic result is not so good.

When radiation is considered in the treatment of breast tumors, diagnosis is as important as when surgery is contemplated. To treat a benign breast tumor or cyst with the x-rays or radium is a great mistake, and may result only in stimulating degenerative changes in it. I should like to emphasize this statement, as I am sure it is needed. Some of the saddest cases I have seen in my practice are those of breast tumors which have been subjected to osteopathic treatment. It should be understood by the profession and the laity that the only treatment for a benign tumor is its removal.

As it is nothing short of a catastrophe for a woman to lose her breast because of a benign tumor, and a great surgical error to fail to do an amputation in the presence of a malignant one, the question of the differential diagnosis of these tumors becomes of the greatest importance.

1608 Spruce Street.

Symposium on Slit-Lamp Microscopy of the Living Eye*

A STUDY OF FUNDAMENTALS IN SLIT-LAMP MICROSCOPY

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It is not necessary to discuss here the slit-lamp microscope itself, as several adequate descriptions are available, one by Dr. Bedell in a recent issue of the *American Journal of Ophthalmology,* and another by Von der Heydt of Chicago in an earlier issue of the same journal, in addition to those of Vogt and Koby. The recognition of the principles underlying the various effects and their specific clarification is placing the subject of slit-lamp technic upon a scientific basis. It must be used with definite precision, and should supplement rather than replace well-known methods.

Methods of illumination and observation show a slight variation in phraseology as given by different authorities, but the details are essentially similar. A recent classification by Graves of such methods which can be accepted as authentic includes (*British Journal of Ophthalmology,* November, 1924): (1) sclerotic scatter, (2) direct illumination, (3) direct illumination with observation along the axis of specular reflection, (4) retro-illumination, (5) proximal illumination. We are advised to begin slit-lamp study by routinely using the first of these five methods, indicating as it does the presence and extent of intracorneal changes, and enhancing changes in iris contour.

The reflecting surfaces of the eye to be considered in association with slit-lamp studies are: (1) anterior surface of the cornea, (2) posterior surface of the cornea, (3) anterior surface of the lens, (4) posterior surface of the lens.

Between the anterior and posterior surfaces of the lens are to be recognized four zones, the importance of which will be elaborated by Dr. Bedell, namely: (1) anterior surface of the adult nucleus, (2) anterior surface of the embryonal nucleus, (3) posterior surface of the embryonal nucleus, (4) posterior surface of the adult nucleus.

It is this entire lens study from the viewpoint of both anatomy and pathology that has led Mr. T. Harrison Butler to conclude that all textbooks are now obsolete in this connection.

When a definitely defined beam of light enters a plate of ordinary glass, the beam undergoes no modification to casual observation by the naked eye. When such a bundle or beam enters or leaves a glass upon which there are fine irregularities, such for example as are induced by gently rubbing the finger over what is usually conceded to be a "smooth demarcating surface," the rays will be so modified as to produce a visible manifestation of the passage of the beam, The interior of the glass is definitely transparent. When such a beam traverses living tissue, such for example as is represented by the human cornea, the human lens and the human vitreous, it is promptly modified because these tissues are not optically homogeneous. As a consequence of this latter condition, the beam in passing through such structures becomes visible as a manifest illumination in the tissue substance. The ability accurately to differentiate the component parts of these so-called transparent living tissues, considered from a purely histological or pathological viewpoint, has developed the need for a new term which Mr. Basil Graves of London has supplied.

"Relucency," the term suggested, will then signify that property of living tissues whereby they are visible superficially or internally when under direct illumination. "In the Gullstrand

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slit lamp, the filament source and the diaphragm are such as to produce, when focal adjustment is made on the plane under observation, a flat ribbon of light penetrating and creating an optical section in the relucent media."

The Cornea and Lens

In the case of the cornea and lens, the visibility of the slit beam is relatively high, owing to the very definite and comparatively easily demonstrated relucency of these tissues. When the illuminated ribbon traverses the cornea, the illuminated area of the cornea is defined by four faces, each having vertical edges. The front face is the epithelium, the back face the endothelium. The visibility of the endothelial surface lessens toward that side on which observation of this face must be made through a greater thickness. The lateral faces are fainter than those of the epithelium and endothelium. The vertical edges of the so-called illuminated parallelepiped are not strictly paralleled, due to the difference of the radius of curvature of the anterior and posterior layers of the cornea.

The relucency of pathological additions to the normal corneal tissue is, as a rule, greater than the corneal tissue itself.

When observation is made by ordinary direct illumination seen in the axis of specular reflection, the small, bright, copper-bronze area of the normal endothelial plate is recognized. Between the endothelial plate of bronze and the epithelial surface will be seen vertically a finely striated, faint, bronze or golden tissue color, due to a summation of multiple specular reflections, also more marked at or near the limbus (Graves).

If the narrow beam is directed through the extreme periphery of the cornea at the limbus, a surface line will be seen, called by Graves the epithelial impact line. It is separated slightly by a small nonrelucent gap from the relucency due to the passage through the fibrous coat of the eye beneath. The reason for this is the separation of the epithelium, either by its increased thickness or by subepithelial tissue, from the fibrous coat by a distance greater than that over the general area of the cornea. This recognition is important in the study of nonvascular keratitis. This will not indicate a thinning of the cornea, but rather the presence of a much less opaque segment between the main area of pathological opacity and the epithelial impact line. A similar interpretation is to be made in subepithelial swelling even without deeper opacification.

Corneal slit-lamp study and its clinical correlation is of necessity writing many new additions to the descriptions of corneal disease.

To quote the Meister of Zurich, "every individual endothelial cell on Descemet's membrane, as well as each pathological lymphocyte, is revealed." For the first time, every individual corneal nerve can be easily traced; and its dichotomous and trichotomous branching followed with perfect ease. Its peripheral thickening becomes an everyday observation. Numerous in the middle layers, more rare in the superficial, absent in the deep, these nerves suggest "silk filaments, whiter than the stroma." Anastomoses are never seen, and, according to Attias and Koeppe, thirty nerve trunks are regarded as the minimum number present.

The folds in the membranes of Bowman and Descemet, the blood vessels at the limbus, and those newly formed vascular channels in the cornea reveal each individual blood cell. The ease with which these vessels and their blood plaques can be outlined in the so-called cured cases of corneal disease is an amazement when they are seen for the first time.

Focusing the light on the region of the limbus will bring out fine grey deposits on the corneal endothelium which are often not visible by ordinary illumination.

In the study of the arcus senilis, the transparent space between the arc and the limbus is confined to the outer layers, the opacity continuing in the deeper layers.

In the corneal illumination it must be remembered that a colored mosaic is induced by tears containing mucus, air, and bubbles of secretion from the meibomian glands.

The more accurate differentiation of so-called lattice keratitis includes a chronic inflammation of the corneal nerves, a nodular swelling of the nerve endings, and ruptures in Descemet's membrane. The nodular keratitis of Groenow should, according to Pillat, be grouped with the lattice forms because of a thickening of the nerve endings. To the classical description of disciform keratitis by Fuchs is added the annular reflex of Vogt, showing central corneal thickening, folds in Descemet's membrane, changes in the corneal nerves, and precipitates on the posterior surface, limited to the infiltrated area.

It is known that marked bedewing of the corneal epithelium, cloudy opacities in the central area, with thickening of the cornea, folds in Descemet's membrane, and precipitates of various size may precede, by weeks, any definite pericorneal injection.

Obliterated vessels will be noted as an outcome of interstitial keratitis. That interesting observation of the so-called Hassall-Henle bodies, their differentiation from the posterior herpes of Schnyer, the former seen only in the

zone of specular reflex, constitutes another slit-lamp finding.

The epithelial dystrophy of Fuchs, in which to the usual symptoms have been added folds in Descemet's membrane, brownish coloration of the endothelium, with loss of cell outline; the discovery of band keratitis months and even years, according to Koby, sooner than by ordinary means; elaboration of the changes in keratoconus, involving a study of the apex thinning; the opacities; the striæ; the Descemet ruptures; Fleischer's ring; and the corneal-nerve accentuation—these are but a few points from the literature, and are mentioned only because the elaborate original work of Dr. Bedell will bring to your attention mainly changes in the lens and vitreous.

The Anterior Chamber

The path of the beam from the slit lamp as it traverses the normal aqueous fluid was formerly thought not to be visible. In other words, it was conceded that the anterior chamber was an optically empty space. Professor Vogt and Basil Graves each quote a distinguished authority in physics as opposing this view—Spring and Barnard, the latter expressing the view that no space in the body which normally contains fluid is optically empty, not even the spinal canal. It is now recognized that the aqueous is slightly relucent, and that it is demonstrable with the dot beam in preference to the slit, provided that the field of observation shall include an area of the fluid which is transmitting the beam and, by contrast, above and below, an area which is not illuminated. The beam should be only one half of one millimeter. It is necessary that the filament of the lamp be loaded to about its current capacity (Graves). The beam should be focused midway between the cornea and the anterior capsule of the lens, and must not strike the iris (diffuse reflection), but preferably, with dilated pupil, should pass on through the lens. If one makes himself familiar with this appearance, it becomes a most interesting study to determine the dawning of a pathological relucency and its probable pointing.

The fluid of the anterior chamber is believed to be in perpetual motion, the aqueous rising in front of the iris and descending behind the cornea. This is a purely physical (thermic) phenomenon, and an accompaniment of a change in temperatures between the anterior and posterior walls of the anterior chamber. According to Silex of the Berlin Polyclinic, this difference is approximately 7° centigrade. The heat of the lamp will increase the rapidity of movement of these so-called convection currents. The normal movement is about 1 mm. in three or four seconds.

The luminous shaft becomes easily visible if any cells or exudate are present in the anterior chamber. In other words, we have thus a method for determining the secretory activity of the ciliary body. The differentiation of very minute exudates in the aqueous as distinguished from those in the cornea can now very definitely be made.

The study of the deposit of cellular elements from the anterior chamber on the posterior surface of the cornea in children, inducing the so-called Türk's line, and the distinction between these deposits and pathological precipitates is another of the many revelations made possible. In this area, also, the distinction between vitreous prolapse and a network of fibrin, the former associated with pigment granules, becomes a definite reading. The more accurate study of the departures from normal in the anterior chamber will include (Koby): (1) cloudiness; (2) definite turbidity, with differentiation of the deposits; (3) reticular opacities, produced especially by fibrin; (4) large agglomerations which sink by their own weight to the base of the chamber.

The Iris

In the study of the iris, the slit lamp, in addition to a highly magnified stereoscopic picture of its superficial portions, to quote Mr. Harrison Butler, makes possible by retro-illumination the seeing of the iris in lens light. The iris tissue absorbs too much light and reflects too little to produce zones of specular reflection.

Atrophy of the deep pigmented retinal layer, especially at the pupil edge and at the bottom of crypts, becomes evident. Of the two mesodermic layers, the deeper extends from the ciliary to the pupillary border, and the superficial reaches only to the collarette. Koby asks us to eliminate from our phraseology the "circulus-iridis minor," as the slit lamp shows that the border of the collarette has no true vascular circle. The attachment of strands of pupillary membrane can be detected that will entirely escape the naked eye. Their attachment to the collarette instead of the pupil border becomes at once evident.

Minute hemorrhages and growths will often otherwise escape observation. With low magnification, if the beam is moved around the pupillary border, reactions to light can be detected that could not otherwise be noted.

It is being found of special value in determining the first suggestion of posterior synechiæ and their association with incipient intra-ocular

tension in the dawning manifestations of uveal disease.

One of the most striking revelations of this new method of study is the enlightment it is giving upon the lens and the vitreous. The physiology of the normal young and aging lens; the interior reflection of the lens; its lamination; the formation of the nucleus; the distinction between the embryonal and senile nucleus; vacuole formation; wrinkling of the capsule; types of nuclear sclerosis; spokes and cystic spaces; lamellar separation; the distinction between senile and complicated cataract—these are but a few suggestions of the elaborate study with which we are to be favored in the classical demonstration by Dr. Bedell.

It has been said that every man travels more easily and with a surer foot if he has some definite notion what the journey is all about and where the road of destiny lies. It can be safely assumed that beyond the dawn of an early tomorrow lie revelations in the field of ophthalmology only faintly dreamed of by the student of today, by reason of the possibilities involved in microscopy of the living eye.

N. E. Corner 17th and Walnut Streets.

THE CRYSTALLINE LENS AS SEEN WITH THE SLIT LAMP

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We can best comprehend the structure of the lens if we start with the embryologic nucleus, which can always be outlined in life by a Y on the anterior and by another on the posterior surface. The Y is upright on the anterior surface and inverted on the posterior. The fibers which lie between the Y's gradually constitute the lens at the time of birth. The lens continues to grow throughout life, becoming larger and more convex.

The center of the fetal nucleus, as seen with the slit lamp, is usually dark, optically empty, but occasionally we see small white specks, and more rarely a single white dot in the exact center of the lens, that is, midway between the anterior and posterior Y's. The surface of the embryologic nucleus may be covered with white dots, or it may be outlined by a few white flakes, or isolated white dots may give a suggestion of its form. The Y's, both anterior and posterior, are always definite. They may give the impression of an elevation or a depression. Fine lines may radiate from the major markings, or the Y may be surrounded by a halo of white nebulous opacities. At times the Y's themselves appear thickened and outlined by white specks.

Zonular or lamellar cataract may show complete opacification of a zone involving both anterior and posterior fibers. Encircling this, but separated from it by a clear wedge, are U-shaped opacities called riders. These are opaque areas in a newer part of the lens than the one in which the opacity is most marked. The zonular opacity may show as an interrupted circle of narrow, triangular, clouded areas in both anterior and posterior lens. There may be isolated riders. They may be very definite, large, and dense, or so narrow and thin that they are seen in the fully developed lens as very short, gray lines. The structure of this cataract differs in the arrangement of the opaque zones, some appearing as diffuse, granular, white dots; others as white triangles with apices toward the center.

The adult nucleus is characterized by a definite reflex, and frequently presents on its anterior surface more or less rounded elevations. On the posterior surface these areas appear as depressions rather than elevations. These relief figures may extend toward the periphery as narrowing radii.

The cortex is the portion of the lens between the adult nucleus and the lens capsule.

True anterior capsular cataract has an irregular outline, and consists of dense white opacities which are sometimes associated with a corneal scar. Usually the opacity consists of almost perfectly round white lamellæ. Frequently, there are minute pigmented dots in these rings, and sometimes remnants of the pupillary membrane are attached to them. These membrane rests, as we have shown elsewhere, always come from the shelf of the iris, which proves their congenital origin. Sometimes, there are broad pigmented bands, and occasionally blood vessels extend into them. On the capsule may be found congenital pigmented masses. These are usually triangular or star-shaped.

The posterior capsular opacities are usually the remnants of the hyaloid artery. They present many forms, and may be seen in practically every eye, usually to the nasal side. Occasionally there are two of these.

Following an injury, there may be a definite outline of the pupil on the capsule of the lens, Vossius's ring. There may be deposits of blood on both anterior and posterior capsules following contusion of the eyeball.

In so-called senile cataract there is liquefaction of the lens fibers with the formation of the globules, thickening of some fibers, with opacification and subsequent shrinking of the lens. The slit lamp enables us to see dark fissures, which are crevices filled with fluid; to note the collec-

tion of globules of fluid in these cracks; to study the increasing cloudiness of the margin of the clefts; and finally to observe the generalized opalescence of the entire lens. In the stage of swelling, when the anterior chamber is shallow and the anteroposterior diameter of the lens is greater, there is a marked increase in the fluid contained within the lens. We may have a single vacuole or globule in any part of the lens. This is frequently rounded, often kidney-shaped. There may be so many of these globules that they appear as a complete layer between the anterior capsule and the lens cortex. They may be small with distinct margins, or they may coalesce to form definite fluid channels. The absorption of the lens may proceed until there is a milky mass inside of the capsules, and the darker, usually brown, nucleus floats freely in the gray fluid—morgagnian cataract. At this period, the capsule is usually thickened.

After a penetration of the lens (as for example, the passing of a foreign body through it into the vitreous), we can trace the altered lens fibers. The capsular wound may be sealed, there may be isolated opacities through all layers of the lens, and yet the cataract may remain stationary. The lens may swell with a separation of the individual lens fibers and a protrusion of the clouded mass through the capsular opening. The individual lens fibers generally maintain their normal curve and present flattened surfaces. If the capsular opening is great, large sectors of the lens may become swollen and be expelled into the anterior chamber. These show a widening of the sutures and a breaking up of the fibers. At other times, rounded white spheres fill the masses. These may be minute and faintly gray, or they may be so large and regular as to resemble unsoaked tapioca pearls.

As the liquefaction progresses, the lens debris is scattered through the aqueous, and sometimes looks like melting snow on a congealing pond. Most of the lens may be absorbed through a large capsular opening, but the capsules may become adherent to each other, and a ring of lens be retained. All of the lens may be absorbed and the two capsules be in apposition, or the anterior capsule may be furled far to the periphery and only the glistening wrinkled posterior capsule be seen. When the capsule has been opened, innumerable rounded spheres resembling soap bubbles may appear around the opening.

Following capsulotomy, or any opening or removal of the lens capsules, there is usually a prolapse of the vitreous. This is distinguished from the posterior capsule by its outline, faint pigmentation, and reflection.

Although there is a regular, demonstrable lens-fiber arrangement, it is not uncommon to see congenital opacities which do not seem to conform to any definite formation; as for instance, sectors of opacity, nebulous clouds, and the anterior capsular cataracts. At other times, the geometric figures that are made by lens opacities are so perfect that to the casual observer of the illustrations, they seem to be schematic.

Many lenses show rounded fingerlike projections extending from the extreme periphery of the lens toward the center. These congenital opacities constitute the form known as coronar cataract, and seem to be stationary, although they may be associated with progressive opacities. Small white dots are scattered throughout almost every lens, and are, I believe, of no pathological significance. They are not to be confused with the flecks that may be part of zonular cataracts, or the granular white opacities of traumatic cataract. There seem to be three more or less distinct types of these opacities. The commonest is the one just described. Another is that in which the dots are only in the peripheral layers, and the last is that in which the small various-sized white areas are arranged as rings throughout the entire lens.

The age of an opacity is determined by its location and construction. This rule is valid for all opacities except capsular. For example, a central opacity must have been present at birth, a posterior cortical opacity only during adult life. Traumatic cataracts are obviously excluded. A foreign body may be accurately localized in the lens.

The thickness of the clear or opaque lens is frequently determined. Wrinkles in the anterior capsule are proof of the lessened volume of the lens. Clinically, this is of especial value in deciding on the operation in congenital cataracts where many times the capsules are practically all that remain of the lens.

Notching of the lens may be combined with an iris and choroid coloboma, or may be present without any other defect.

The fibers of the suspensory ligament come from the ciliary processes and proceed to the anterior capsule, to the equator, and to the posterior capsule. These zonular fibers are in groups, and, as a result of either spontaneous or traumatic dislocation of the lens, are broken. We can then see where they have been torn from the anterior capsule, or see the short bristling fibers attached to the capsule, or still more

often find that there is no evidence of the existence of zonular fibers. The absorption of these fibers can be observed particularly in cases of complicated cataract, such as those which follow old choroiditis, where, as the posterior cortical opacity increases, there is a decrease in the number of demonstrable zonular fibers. We have seen three fibers in a colobomatous zone, and subsequently seen the lens spontaneously dislocated. Much could be said regarding zonular fibers, but unfortunately the time is too short for more extended discussion.

The color of lens opacities is of value in differentiation. The nucleus of most senile lenses has a yellowish tinge. With the slit lamp, the posterior cortex, and especially the posterior capsule, has a yellowish-brown tone. Anterior cortical opacities are usually gray. Flakelike opacities are frequently blue. Posterior cortical masses are often iridescent, and occasionally a similar iridescence may be noted in the anterior cortex.

There are two groups of lens opacities, the stationary and the progressive, with perhaps another class which should be clinically differentiated. In it, the progress is so gradual and the change during the life of the patient is so slight that we are unwarranted in saying there is a cataract, or even in suggesting that the vision may be reduced as a result of the lens change. The stationary opacities include the group of congenital changes, the center of the lens, the embryologic nuclear cloudings, increased visibility of lens Y's, zonular cataracts, and anterior and posterior capsular cataracts. The progressive, so-called senile cataract appears as lardaceous masses in the periphery of the lens, increasing nuclear opacities and posterior cortical involvement. The lens opacity, which progresses with extreme slowness, is that characterized by spires in the periphery. These are like cleavage lines through a transparent piece of ice, with iridescent bluish-gray light and dark zones and indistinct outline involving many layers of the lens.

The proper diagnosis of some lens opacities cannot be made without the aid of the slit lamp and without dilatation of the pupil. Any report of cataract cures or success of medicinal treatment which does not include these two procedures is of absolutely no value.

There are two separate forms of posterior cortical involvement. The differentiation is of considerable clinical importance. The one looks like a rosette, with very fine radiating lines which seem to follow the sutures. This is usually the result of intra-ocular disease, such as extensive choroiditis, retinitis pigmentosa, or detached retina. In contrast, there is the less definitely outlined opacity which is found to consist of innumerable refractile spheres. This mass does not follow the lens sutures, is of greater thickness, and is usually of traumatic origin.

344 State Street.

SLIT-LAMP MICROSCOPY IN EVERYDAY PRACTICE

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Like all new thoughts, new theories, and new methods, slit-lamp microscopy is undergoing criticism, both favorable and adverse. In the judgment of a sufficient number of careful investigators, however, it has passed the stage of doubt. There seems to be no dissenting voice as to its value as a scientific instrument of precision. To decry belief in its so-called ultra-scientific possibilities would be an acknowledgment of total ignorance of the literature and the great amount of work which has been done in this field of investigation. But the clinical ophthalmologist raises the important questions: Is it of practical value in daily practice? Is it essential to his equipment? Will it enable him to obtain a better knowledge of the conditions which he is called upon to treat than the instruments and methods now at his command?

It is evident that comparatively few, thus far, have learned to appreciate the true worth of the instrument. The reasons for this are the same reasons which are usually applied to all new ideas. First, there is a general skepticism as to the practicality, in everyday practice, of an instrument so technical. There is a general belief that it is too scientific, too complicated and time-consuming, to say nothing of the expense, to admit of its use in a busy office. Second, this estimate of its value is the result of a lack of knowledge of its possibilities which retards its full appreciation. Until one has acquired its technic and has learned by experience what can be done and how time-consuming or time-saving the instrument may be, an incorrect opinion may be formed. Third, there are men today, as there were in the day of von Helmholtz, when he introduced the ophthalmoscope to the profession, who are satisfied with their present equipment, and who feel that by their present methods, which have stood the test of time, they are able to see and know all that is worth knowing of any particular case.

These objections need not be discussed. The object of this paper is to set down a true valuation of slit-lamp microscopy as it applies to daily clinical work. Its value can best be appreciated from a threefold aspect: (1) Its ability to confirm, analyze, and amplify what can be learned by our present methods. (2) The ability to determine in detail what our present methods cannot disclose. (3) The natural conclusion that because of its stated value in the first and second propositions, the diagnostic skill of the user of the slit lamp is much increased.

One cannot discuss the subject without becoming somewhat technical to the uninitiated. Under the first of our propositions, there are two outstanding methods of study, quickly applied and more rapid of execution than a hasty survey of the eye by the ophthalmoscope, which yield maximum results in the way of comprehensive analysis. The "scleral scatter" as used by Graves, i.e., the throwing of the widely opened beam to the outside of the limbus, with a low magnification of about nine diameters, enables one to take in at a glance any gross pathology of the cornea and anterior chamber. By efficient oblique illumination and the loupe a similar survey can be made, but not so precisely and not with the same amount of ease. When the slit is narrowed, greater minutia of detail is obtainable as the beam is passed over the cornea and is focused to inspect conditions at various depths anterior to the vitreous.

All this is accomplished in much less time than is required to set the facts on paper. Those who have had occasion at times to look through the microscope after it has been focused are not in a position to make a fair estimate of comparison between the loupe and oblique illumination and this method of study, because it requires the skill of a practiced technic to make a fair comparison. This simple method of study is only a survey preliminary to analysis by higher magnification and by other methods and technic.

One of the contributions by the slit lamp of higher power is the presence of finely pigmented dust particles on the posterior surface of the cornea, in the aqueous, and in the vitreous. This pigmented dust is barely detectable on the cornea and in the aqueous by the ophthalmoscope. Its presence as a preoperative condition presages a bad prognosis postoperatively. My experience during the last two and a half years has led me to postpone intra-ocular operations when this condition is present, until suitable constitutional treatment has caused it to disappear. Postoperative iritis in cataract extraction may in many instances be due to lens sensitivity, but I am convinced that many cases are due to an auto-intoxication which is revealed by slit-lamp microscopy in the presence of these pigmented dust particles.

In a patient operated upon for bilateral cataract, this fact was well exemplified. The first eye was operated on without slit-lamp microscopy. It did well for eleven days, and for three months thereafter passed through, without any apparent cause, the course of a severe iridocyclitis, with fair but somewhat reduced visual results. In the second eye, one year later, an auto-intoxication, as shown by the slit-lamp, was treated for six months before the dust particles disappeared. The operative conditions and the amount of lens cortex were about the same as in the right eye, but recovery was complete and uneventful with perfect visual results. Had slit-lamp studies been made in the first instance, it is probable that the infection might have been found to be present in the first eye as well as in the latter. The patient's general condition suggested low resistance.

The detection and discussion of vitreous hernia will be omitted in this discussion, as it will be dealt with in a separate paper under preparation, supplementary to a preliminary communication which I presented before the College of Physicians of Philadelphia in 1923. It will be sufficient to say here that while a few cases of vitreous hernia have been detected by the loupe and oblique illumination with high plus lenses behind the ophthalmoscope, it is the slit lamp which has demonstrated its presence, and one can now by means of the ophthalmoscope be able to say, at least, when examining the pupillary area, that such a condition probably exists.

The second method of study in this group of cases which has crystallized some of our hazy and more or less nebulous observations by present methods is that of sectioning the lens by a thin beam of light. A demonstration of studying the lens by serial sections with the light beam is probably the most convincing argument in favor of the practical use of the slit lamp in everyday practice. When the proper technic has been mastered, the facility with which an exact knowledge of the lens can be acquired, with definite localization of any pathology, cannot be approached by the most clever manipulation of the ophthalmoscope or of the loupe and oblique illumination. It is quite possible to recognize incipient forms of lenticular opacities by the ophthalmoscope; but, after all, it is only the man of large experience behind the

instrument who can definitely say that such opacities are congenital or nonprogressive, or that they are incipient forms of a progressive senile cataract. The slit lamp, on the other hand, is so definitely localizing and discriminating as the light beam is passed through from equator to equator, that the conclusions of an average observer are as correctly formed as the opinions of the expert with the ophthalmoscope.

The question of one's ability to arrest the development of senile cataract is held in doubt by some, because many cases of so-called incipient cataract fail to develop after years of observation. The corneal microscope has done much to eliminate this element of doubt. It is possible, with the knowledge at our command, to differentiate clearly between a congenital or postnatal condition of the lens which may remain stationary, and those forms of opacities which are early forerunners of a progressive senile cataract. The possibility of arresting this latter process is not under discussion, but those who feel that a senile cataract must go on to maturity and the patient must supinely await such maturity before relief can be given, will find it of interest and profit to study a series of cases of lenticular opacities by means of the slit lamp, before and after suitable arrestive treatment has been practiced.

In the second group of cases (namely, those in which the slit lamp reveals conditions not uncovered by our usual methods) may be mentioned, early evidence of sympathetic disease, and of other forms of infection in the aqueous or vitreous and on the cornea, minute changes in the epithelium and endothelium of the cornea, and early iritic changes and conditions included in the first group which are only recognized by masters of the other instruments at our disposal.

To one who uses the slit lamp as part of a daily routine in selected cases, the disclosures of the corneal microscope are a revelation, first, in giving definition and clarity to clinical conditions which are otherwise indistinct and confused, and second, in bringing into view clinical conditions which were not even suspected.

The natural corollary to these two premises, to which all slit-lamp workers will subscribe, is the fact that from a purely clinical standpoint, slit-lamp microscopy raises the diagnostic skill of any one who becomes interested in mastering its moderately difficult technic. This can be accomplished, under proper instruction, in a comparatively short time. It cannot replace either the ophthalmoscope or the loupe, as it is but an adjunct to both, but as a practical instrument for everyday use, it opens up a new epoch of progress in ophthalmology. It is an instrument of great practicality, a refinement in diagnosis, and essential to the proper interpretation of many conditions which otherwise will remain obscure. Its field of application is large. Although of great scientific value for minute study as a laboratory instrument, it is equally valuable in making our everyday clinical work more exact and scientific.

N. E. Cor. Chestnut and 20th Streets.

Seven Case Reports*

LEINER'S DISEASE

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The following case is believed to be one of Leiner's disease, so named because first described by Dr. Carl Leiner, of Vienna, in 1908. He claims it is found only in the suckling from one to two months of age.

A first-born American male infant, full term, weighed 7½ pounds at birth, September 18, 1923. He was first seen on October 18th, at one month of age, when he was breast-fed. He was emaciated, pale, anemic, and about a pound below the birth weight. He was vomiting, cross, and the stools were loose, frequent, green in color, containing many fine soft curds and mucus. The skin over most of the body was covered with a uniform dermatitis overlaid with large yellowish-white seborrheic scales and patches of intertrigo. Fissures about the mouth resembled those of congenital lues. There was slight edema of the legs and feet. The spleen was not palpable. The Wassermann was negative, the urinalysis negative to albumin and sugar, and hemoglobin 50 per cent. Analysis of the breast milk showed a normal fat percentage, but an insufficient quantity.

Treatment was first begun by supplementing the breast feedings every 3 hours with a mixture of equal parts of cow's milk and water, with the carbohydrates made up to 6 per cent by the addition of dextri-maltose. The baby continued to lose weight, the vomiting was not controlled, the stools did not improve, and the skin condition did not clear up until all breast milk was withdrawn. Feedings were made up of skim milk and water, equal parts, with the carbohydrates increased to 6 per cent by the addition of milk sugar. The skin was cleansed daily with olive oil, after which an ointment of balsam of Peru, 20 per cent, was applied.

*Read before the section on Pediatrics of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

The baby rapidly acquired a fat tolerance, the dyspeptic symptoms decreased, the skin began to clear, and he began to gain rapidly in weight. At the sixteenth week, his untoward symptoms had disappeared, his weight was 14 pounds, and his fat tolerance 2 per cent.

Dr. Leiner claims that edema is due to a capillary and not a kidney affection. The cause of the condition is not known. Some authorities attribute it to the mother's milk. Dr. Czerny thinks it is due to low blood protein. The prognosis is always to be guarded, as half of the cases end in death.

DEHYDRATION FEVER OF UNUSUAL ETIOLOGY AND SEQUELÆ

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and
F. F. BORZELL, M.D.
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Fever in the newborn is of frequent occurrence, and in many cases cannot be satisfactorily explained. Many theories have been advanced to explain just what does take place. Lack of fluids, lack of food, bacterial invasion, and bacterial flora in the intestines have been suspected as causes. The case in question is interesting because of the mechanical condition which interfered with the child's taking food and water, and because of the sequelæ occurring during the few months following birth. We are greatly indebted to Dr. Clifford B. Lull for permission to publish this case.

Baby H. was delivered by the application of low forceps after twelve hours of labor. The child breathed at once, and was apparently a normal healthy baby. He weighed eight pounds, one ounce at birth. During the first twenty-four hours the baby did not nurse very well, and would spit up a little. He nursed satisfactorily during the second and third days, and did not vomit. On the fourth and fifth days he again vomited at each feeding, but apparently nursed well. On the fifth day he had a sudden elevation of temperature to 105°. He lost eighteen ounces in weight during these first five days. The first of us was called in consultation by the obstetrician at this time. The baby was a well-nourished child, flushed but not cyanotic. Respirations were rapid but regular. Except for the fever there was no other physical sign to explain the condition. The baby was observed while nursing. The act of nursing was good, but after a few minutes the baby became cyanotic and slightly convulsed. The milk secured seemed to run out of the mouth, rather than to be vomited. After this the baby did not nurse well. The breasts were not full, but the milk seemed to flow satisfactorily. The breasts were stripped, and the baby fed with a medicine dropper. The same sequence of events ensued. Water was tried with the same results. The difficulty in swallowing was apparently due to some esophageal obstruction.

Mouth feedings were discontinued, and rectal feedings begun. A five-per-cent glucose and two-per-cent sodium-bicarbonate solution was given. An ounce was given every two hours, all of which was retained.

Fluoroscopic examination showed no evidence of thymic enlargement. Examination of the esophagus by means of a barium solution showed the presence of a pressure in the middle third, sufficient to cause some obstruction. Attempts at deglutition caused an attack of dyspnea, cyanosis, and mild convulsions. When the child lay on the left side, some barium got by the obstruction, but was held at the cardia by another obstruction which was believed to be due to a spasm. Radiographs showed what appeared to be an enlarged lymph gland pressing on the middle third of the esophagus. One treatment of 120 kilovolts at 18 inches' distance, with a 3-millimeter aluminum filter, 5 milliamperes for two minutes, was given.

Gavage feeding was resorted to. The breasts were pumped, and breast milk used as long as available. The fever subsided. Cyanosis and convulsions did not recur, and the baby seemed to thrive. Artificial food was necessary because of failure of the breast milk. Four days later, another fluoroscopic examination with a barium solution showed that the obstruction had disappeared. Another x-ray treatment was given. Gavage feeding was discontinued, and bottle feeding of a modified cow's-milk formula was given. The baby was able to swallow without any difficulty.

On the fifteenth day the baby again began to vomit. This time the amount was large, and the vomiting occurred immediately after feeding. There was no dysphagia. A careful observation during a feeding showed a well-formed and easily observed peristaltic wave in the upper abdomen. A diagnosis of pylorospasm was made. Thick-cereal feedings were given, preceded by atropin in appropriate doses. Vomiting was controlled satisfactorily, and the baby continued to thrive. It was necessary to continue the atropin for four months.

When the child was three months old the

mother noticed a peculiar crowing sound on inspiration. It occurred irregularly, and apparently was worse when he was lying on his back, and during feeding. Physical examination for enlarged thymus was negative. The x-ray, however, showed decided widening of the superior mediastinal shadow to the right, with sharply defined margins of the right border. This appeared to be enlargement of the thymic gland. A series of four x-ray treatments was given during the following four months. The symptoms of enlarged thymus ceased. The baby thrived, and weighed 24 pounds at the end of the first year.

CONGENITAL OBSTRUCTION OF THE ESOPHAGUS

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Congenital malformations of the esophagus are relatively uncommon, and in the majority of instances they are incompatible with life. They are generally regarded as developmental defects, although fetal syphilis and inflammations, hydramnion, and defects of the placenta have been held to be causative factors. Esophageal atresia is frequently associated with other anomalies.

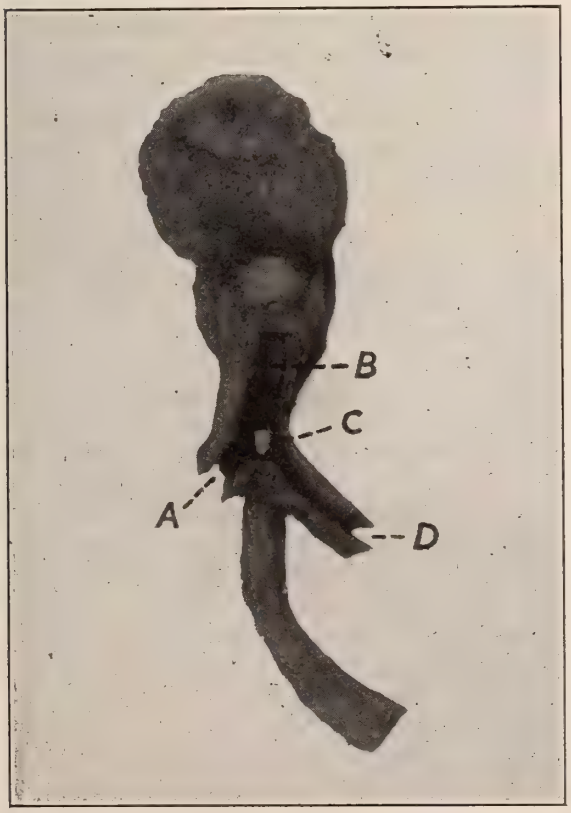


Fig. 1. Anterior view of trachea and esophagus. A, right bronchus. B, trachea. C, opening at lower esophagus into trachea. D, left bronchus.

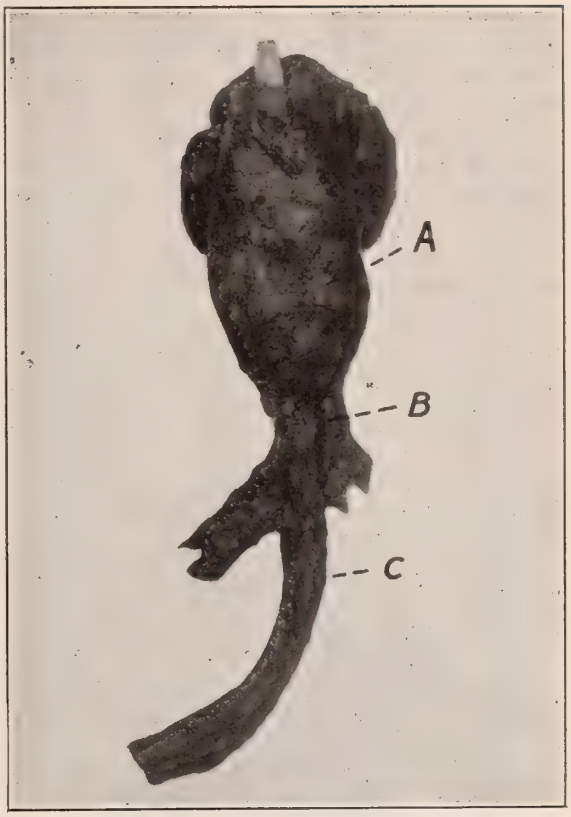


Fig. 2. Posterior view of trachea and esophagus. A, sacculated upper portion of esophagus. B, few muscle fibers extending downward to lower esophagus. C, lower part of esophagus.

The case here reported belongs in the group showing defective development of the esophagus, with atresia and tracheal communication, accompanied by anomalous origin of the great vessels of the heart.

The patient, the eighth child of healthy parents, was delivered after a normal labor. Nothing unusual was noticed during the pregnancy except a moderate hydramnion. Slight asphyxia was present at birth. Otherwise, the infant seemed to be a normal, full-term baby, weighing 8 pounds, with a well-developed body. Nothing was noticed until attempts were made to give water. This was immediately expelled through the nose and mouth, the vomiting being accompanied by deep asphyxia and coughing. Attempts to pass a catheter failed, an obstruction being met with in the esophagus about 3 inches from the mouth. An x-ray was taken which disclosed a mass in the region of the thymus. Meconium was passed normally. On the fifth day following birth, death occurred as the result of aspiration pneumonia.

At autopsy, no external abnormalities were noted. Subcutaneous fat was present in a normal amount, but the tissues were rather dry. The peritoneum was smooth and shining, and

the normal amount of fluid was present. Both pleural sacs were free. The lower neck organs, heart, and lungs were taken out *en masse*. The thyroid possibly was enlarged. The thymus consisted of two lobes, very thin, and smaller than normal. The upper portion of the esophagus was greatly dilated, and formed a pouch whose lower end was about opposite the sternal notch. From the lower end of this sac, a few muscle fibers extended downward and below the bifurcation of the trachea. There was no opening into the trachea from the upper portion of the esophagus. By passing a probe into the trachea, either bronchi could be entered, and also the lower portion of the esophagus. On

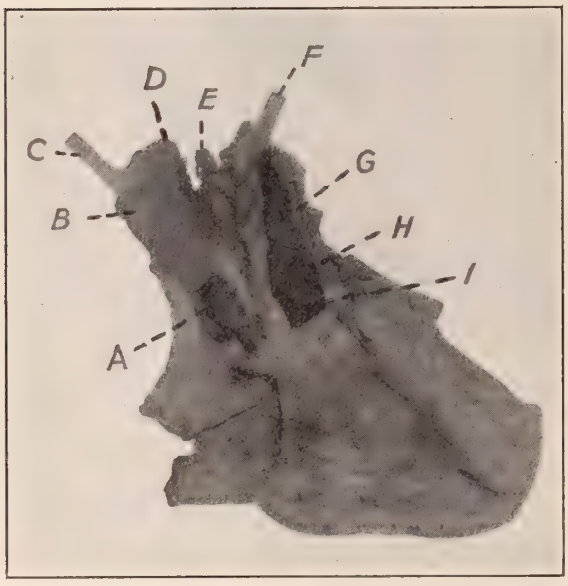


Fig. 3. Anterior view of heart, with opening of pulmonary artery showing beginnings of left and right pulmonary arteries, also branches of aorta. A, aorta. B, right common carotid. C, probe in right subclavian. D, left common carotid. E, left subclavian. F, probe in ductus arteriosus. G, pulmonary artery extending upward to form aorta. H, opening of left pulmonary artery. I, opening of right pulmonary artery.

opening the trachea, a small outlet was noted on its posterior wall just on a level with the bifurcation.

The right lung showed the presence of considerable aspiration pneumonia, and there was a small amount in the upper portion of the left, with considerable congestion. The heart musculature and valves seemed quite normal, although there was malformation of the aorta and pulmonary artery. The latter, after giving off two branches, one to each lung, continued upward and a little outward; forming an arch, and then continued downward as the aorta. It had an opening for the vertebral arteries. It was quite a large vessel, as large as the normal infant aorta. The aorta proper emerged as a normal vessel, extended upward for a distance of 2½ cm., where it bifurcated, forming the common carotid, right and left. Just beneath the right common carotid was a branch, forming the left subclavian. The connection between the aorta and the pulmonary vessel—the ductus arteriosis —was patulous.

The spleen was dark in color, almost black, and its structure was not recognized. The kidneys showed normal fetal lobulations. They were considerably congested, and the collecting tubules were filled with urates. The liver was dark colored, and the lobulations nearly obliterated. The gall bladder apparently was normal. A small nodule noted in the large curvature of the stomach, on microscopic section proved to be a piece of pancreatic tissue embedded in the wall of the stomach.

HYSTERIA IN A CHILD FOLLOWING APPENDECTOMY

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W. H. M., 11½ years, was the oldest of four children, having three younger sisters. He had always been a large, apparently healthy child, had recovered from moderate attacks of scarlet fever, chickenpox, measles, and influenza, and was subject to frequent colds. He had lived in a very well-ordered home with exceptionally well-balanced parents. His past history had no bearing on the present condition. January 5, 1925, I was called in to see him on account of severe pains in the lower right quadrant of the abdomen.

The boy weighed at this time 108 pounds, was very well nourished and looked in splendid physical condition. His expression was anxious, and he rolled around the bed with severe pains over McBurney's point, with the right leg retracted. The bowels were constipated, and the temperature was 99°. On palpation, there was very marked tenderness over the painful area. The remainder of the physical examination was negative. The white blood count and differential were normal, and the urine was negative. The diagnosis was acute indigestion, with questionable appendicitis. The bowels moved well with an oil injection, but pain continued severe. The boy was put in bed on a restricted liquid diet, and was under observation until January 13th. The temperature had remained normal, but the pain persisted. He was seen by a surgeon, who advised waiting twenty-four hours, and if there were no signs of improvement, performing an appendectomy. The white blood count and dif-

ferential were normal, and the urine negative.

As the pain continued very severe, an appendectomy was performed on January 14th. When the appendix was removed, it was not visibly diseased, though it was not examined microscopically. The boy had an uneventful convalescence, and on February 9th went to Jamaica in apparently good condition.

March 15th, on his return, he had pain in the abdomen, this time in the left lower quadrant, and vomited once. He also complained of pain in the right leg and foot. When examined, he had a very worried expression, and rolled from side to side in bed, complaining bitterly of pain in the abdomen. The temperature was 98 3/5°. The white blood count and differential were normal, and the urine negative. The appendectomy wound showed a good, well-healed scar, and was not unduly tender. At this time the boy had a good appetite in spite of the pain, and a bowel movement once a day was large, formed, and macroscopically normal. Physical examination was entirely negative, there being no rigidity or tenderness over the painful area. A diagnosis was made of possible hysteria. March 20th, the surgeon who performed the appendectomy again examined the boy, and found nothing abnormal.

The patient was simply kept under observation in bed four days, and as nothing was found, his parents were told to get him up and pay no attention to his pain. Immediately he complained of weakness and pains in both legs, and held on to some one for support. As nothing abnormal was noted, support was removed and he managed to get around by holding on to objects.

March 25th, he suddenly developed a light phobia, and was put in a darkened room complaining of severe pain when exposed to the slightest light. Inspection of the eyes was negative. Consultation with an oculist also revealed nothing abnormal. The boy was given a boracic-acid eye wash, and told he would be all right and could go out.

The next day, March 26th, the light phobia disappeared, but the pains in legs and abdomen still persisted. A complete neurological examination was made on April 3d, the following conditions being considered: a purely hysterical condition, beginning muscular dystrophy, a secondary lesion from mild lethargic encephalitis, undeveloped Pott's disease, a possible pituitary lesion. Each condition was carefully excluded, and the conclusion was: "We are necessarily forced back on the diagnosis of a purely functional condition based upon the shock to the system after the abdominal operation, combined with the concern of the family."

The boy was placed on a skim-milk diet, absolute rest, and complete isolation with a nurse. When the nurse first arrived he threw himself violently around the bed, closed his eyes, and kept his head under the pillow. These symptoms lasted ten minutes. In ten days, however, he was cured, and on April 23d, he returned to school entirely free from all symptoms, and has remained well since.

He spent the summer in a boys' camp, and was normal in every way. The other boys stated, however, that he always asked them to go to the director of the camp for anything he wanted, instead of asking for it himself.

I am presenting this case because of the difficulty of diagnosis and the infrequent mention of hysteria in children. Doubtless if we all paid more attention to nervous manifestations in childhood, many more such cases would be reported.

16 W. Montgomery Avenue.

RADIOTOXEMIA WITH DEATH FOLLOWING ROENTGEN-RAY TREATMENT OF ENLARGED THYMUS

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Toxemia following Roentgen-ray or radium treatment is now a well-recognized syndrome. Clinical and experimental investigators have determined that the toxemia is due to the absorption of the highly toxic end products of cellular or fibrous-tissue destruction produced by the radiations.[1] There are numerous reports in the literature of radiotoxemia in the adult, occurring, as a rule, after intensive irradiation of malignant growths. There are, however, very few reports of the condition occurring in infants and children after irradiation of enlarged thymus.

Untoward symptoms in 6 out of a total of 18 cases of enlarged thymus treated by radium were observed by Hardy.[2] One of his patients died of an unusually severe toxic form of bronchopneumonia. Severe convulsions, attacks of cyanosis, periods of suspended respirations, and subnormal temperature occurred in the others. Some of these symptoms lasted for a week after exposure to the radium.

The following is a report of what is believed to be a case of radiotoxemia, with death follow-

ing Roentgen-ray treatment of an enlarged thymus.

G. F., a female infant of 7¼ pounds, was delivered at term in a normal manner on April 15, 1924. She did well until May 4th, 19 days after birth, when a severe attack of colic accompanied by very rapid and shallow respirations took place. The colic was relieved by an enema, a mild purge, and a lessened intake of breast milk. It did not recur. The next day the baby was apparently comfortable, and did not appear particularly ill, although the respirations had continued to be very rapid and shallow. The rate varied from 60 to 120 per minute. There was no cyanosis, playing of the alæ nasi, or cough. The temperature was normal. Examination revealed dullness on percussion, and bronchial breathing over the right upper lobe of the lung. On May 6th, because of the rapid respirations and physical findings of pneumonia without fever, a Roentgen-ray examination was made. This showed a marked enlargement of the right lobe of the thymus, which extended over the right upper lobe of the lung. The signs of consolidation were, therefore, dependent upon the right lobe of the thymus, which transmitted the tracheal sounds. A Roentgen-ray treatment was given of 5 milliamperes, 8½-inch spark gap, 3 millimeters of aluminum filter, distance 14 inches, time 6 minutes.

Following the treatment, the infant became quiet and slept most of the time. Within the next three days, the respiratory rate decreased to 30 or 40 per minute, although occasional paroxysms of more rapid breathing occurred when the baby was disturbed. The physical findings of the enlarged thymus were not demonstrable at the end of the third day. The digestion continued to be normal. Somnolence became gradually more and more marked, so that the infant had to be awakened for nursing.

On May 9th, 3 days after the Roentgen-ray treatment, the baby had what the mother called a spasm. She became deeply cyanotic and spastic. This lasted but a few moments. Another Roentgen-ray treatment was given on this date.

During the following week, the child appeared very toxic. Stupor developed, which became so marked that the child was fed with great difficulty. The temperature was subnormal.

On May 15th, she became unconscious. A temperature of 102° developed. A brawny swelling of all the subcutaneous tissues appeared. It resembled and probably was a sclerema neonatorum, for it did not pit on pressure. Frequent convulsive attacks with cyanosis occurred. The infant did not respond to any therapeutic measures, became progressively weaker, and died on May 17th.

Briefly summarized, the case was one of increasing somnolence, leading to stupor, unconsciousness, and convulsions, with death occurring 11 days after the initial and 8 days after the second Roentgen-ray treatment for enlarged thymus. Except shortly before death the temperature was subnormal throughout the course. The sclerema neonatorum was a terminal event.

To present this case as one of radiotoxemia without laboratory study is admittedly presumptuous. Other morbid states were, however, thought of before such a diagnosis was seriously considered. Among them was infection. There was no demonstrable infection in any part of the body accessible to physical examination. Whether demonstrable or not, as in pyelitis, most infections cause a febrile reaction in a well-nourished infant. Intestinal toxemia could be excluded because of the normal bowel movements and the exclusive diet of breast milk. Drug poisoning was also excluded.

In favor of a diagnosis of radiotoxemia were the toxic symptoms similar to those described by others following within 24 hours of a therapeutic dose of Roentgen rays. As the toxemia is dependent upon the absorption of the toxic end products of thymus disintegration, it may be well to inquire why it is not more commonly observed. The severe type is no doubt rare. But very mild types, manifested by weakness and somnolence lasting for a few days, have been repeatedly observed by the author following irradiation for enlarged thymus or pertussis.

A not unreasonable hypothesis to explain the severe type is a failure of the organs of elimination, particularly the kidneys, to excrete the toxic products. Hardy found the blood nitrogen to be increased as much as 50% after radium treatment of enlarged thymus. This enormous and sudden nitrogen accretion in the blood stream taxes the kidneys and their failure to respond to the added burden gives rise to toxic symptoms.

It is hoped that this case report may stimulate further interest and investigation in the problem of radiotoxemia, so that its dangers may in the future be minimized.

235 So. Fifteenth Street.

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CONGENITAL ABSENCE OF BONES IN TWO MALE INFANTS

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Ollerenshaw, in an exhaustive study of anomalies (*J. of Bone & Joint Surg.*, July, 1925), has shown that defects in the extremities are due to arrested developmental growth of the germinal matter. External violence, constriction of the fetus by amniotic bands, and the like play no part in their production. From such observations, it seems rational to conclude that for some unknown reason the limb buds destined to develop into the lower extremities have undergone arrested growth. It is possible to assume that absence of the sternum results from a similar condition. Embryonal cells which are to form the breast bone atrophy or cease functioning some time during early fetal life. Ollerenshaw clearly points out that the fetus is protected by a pillow of fluid in which it floats. A blow or fall sufficient to damage the embryo would in all probability result in abortion.

Literature abounds with reported instances of deficient or absent tibiæ and fibulæ. A perusal of current works on orthopedic anomalies fails to disclose instances in which femurs were absent. The fibula is most frequently found missing, and after it, in order of frequency, the tibia, ulna, and radius.

Congenital Absence of Sternum.—L. L., full-term male infant was seen a few weeks following birth. The mother was a primipara. Delivery was normal, and the child cried lustily immediately following birth. So far as could be ascertained, there was no history of trauma at any time during pregnancy. There was nothing of importance in the personal history which has any bearing on the infant's condition.

Breast-fed at first, the patient did not thrive as well as should have been expected. This was in all probability due to poor mammary development in the mother which resulted in insufficient nourishment for the offspring. Maternal feeding was replaced by proper formulas, upon which the child improved rapidly. The original birth weight was 7¼ pounds. Physical examination four weeks after birth showed a poorly nourished infant weighing 7½ pounds, contented, and apparently happy.

The chest presented an inverted triangular groove, situated centrally upon the anterior aspect of the thoracic wall. The triangle occupied the position of the customary sternum, the base upon a level with the lowermost end of the neck, while the apex was directed towards the region of the xiphoid process. Because of the abnormal appearance of the chest wall, the parents' anxiety became aroused and they sought medical advice.

At 8 months, the measurements of the triangular groove were as follows: Width, 4 cm. (1⅝ inches) from side to side at the widest portion (about the center). The base from the sternal end of one clavicle to the other measured



Photograph by Bachrach.

Fig. 1. Congenital Absence of Sternum. Age 8 months.

6 cm. (2⅜ in.). The depression at the apex in the region of the xiphoid was 1 cm. (⅜ in.) in width. A perpendicular line drawn from the apex upward to meet the base, directly through the center of the triangle, measured 5 cm. (2 in.) in length. The right and left borders measured 6 cm. (2⅜ in.) each from the sternal end of the clavicle to a point designated by the tip of the xiphoid process.

The skin over the depression of the chest was glossy, elastic, and freely movable. During inspiratory movements and crying, a marked indrawing or tunneling of the skin was produced over this area. The exaggerated concavity was replaced by a nearly normal condition, with only a slight depression remaining when the air contained in the lungs was expelled. During ex-

piration, but even more so while the inspiratory phase was in progress, the fingers of the examining hand could be slipped with comparative ease for a considerable distance under each side of the ribs.

The organs of the remainder of the body apparently were normal.

The x-ray showed no evidence of the presence of the sternum, but the rib cartilages bore their normal relations to each other and to the thorax. The bones of the shoulder girdle bore their normal relations to each other.

CONGENITAL ABSENCE OF TIBIA AND FIBULA. —F. B. B., full-term male infant was seen about three weeks following delivery. The mother was a primipara. Labor lasted 8 hours, and delivery was normal. There was no history of injury to mother from the time she conceived until the time when birth occurred. So far as could be determined, there were no malformations present in the descendants of either parent for the past three generations.

The infant was breast-fed, and thrived well upon maternal nursing. A steady gain in weight was recorded each week, so that at the end of three months, when the baby was last seen, he weighed 11½ pounds. There was nothing else of importance in the patient's history.

The abnormality was noticed immediately following birth.

Physical examination revealed a normal, well-nourished infant, except for the malformed left lower limb. The shortened appendage occupied the same position as is common with a normal lower extremity. The thigh, in this instance,



Fig. 2. Roentgen ray, anteroposterior view, showing complete absence of sternum.



Photograph by Bachrach.

Fig. 3. Congenital absence of left tibia and fibula. Age 3 months (standing).

appeared to be a trifle fuller and bulging at the proximal end. The distal extremity corresponded to the normal foot. The left thigh was displaced slightly inward and forward. The foot was extended outward. The toes were normal, both in number and position. The left leg was distinctly absent, the foot being continuous with the lower end of the thigh.

The measurements taken at three months were as follows: Left side from anterior superior spine of ilium to caudal outer end of thigh (os calcis) 12 7/10 cm. (5 in.). Circumference about middle of thigh 12 7/10 cm. (5 in.). Compared with the right lower extremity, an appreciable difference between the two sides was noticeable. The right-limb measurements were as follows: Anterior superior spine of ilium to

os. calcis, 24 7/10 cm. (9¾ in.). Circumference about middle of the thigh 17 7/10 cm. (7 in.). Circumference of the right leg about the middle, 14 cm. (5½ in.). When the right leg was drawn upon the thigh in a flexed position, both feet were upon a level plane. In this position it was difficult to notice any great degree of malformation. When the infant was held in a standing posture supported under the arms, a distinct difference of 11 2/5 cm. (4½ in.) existed from the dorsal aspect of the left foot to the level of the table.

Gently palpating the left extremity, the examiner's hand found that the bone felt corresponded to what appeared to be a normal femur.

X-ray study showed that there was a congenital absence of the left tibia and fibula. The pelvis on that side was undeveloped, and the acetabular fossa was very shallow. The left femur was shorter than the right, nor did its development correspond to the normal development for the age of the patient. The femur was considerably lower than normal, the head and the neck being 2 inches below the acetabulum. This was an effort to compensate, and supply the place and function of both the tibia and fibula. In consequence of the above anomaly, there was a maldevelopment and articulation of the bones of the foot with the lower end of the femur.

Science knows of no remedial agent for these unfortunate conditions. It would seem that in case of the absent breastbone a protective orthopedic shield to be applied over the defective chest wall would serve to prevent injury to the intrathoracic viscera from external violence. Amputation some time during childhood and the use of an artificial limb would seem to be the only radical treatment to be followed in the case of the absent leg bones.



Fig. 4. Roentgen ray, anteroposterior view, showing absence of left tibia and fibula.

The authors desire to express their appreciation to John F. Kelly and Miss E. B. Oxman for their kindness in assembling the roentographic plates.

1904 N. Franklin Street.
1923 Spruce Street.

POLYURIA IN A FOUR-YEAR-OLD CHILD

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This case is reported because the outstanding symptoms so closely resemble those of diabetes insipidus. Indeed such a diagnosis had been made by another physician. Upon examination of a specimen of urine, pus was found in large quantities. The autopsy showed almost complete destruction of the secreting structure of both kidneys. The child was but four years old.

A boy, J. C., aged 3½ years, was brought to my office, December 17, 1924. He was the only child. There were no other pregnancies. His father and mother were both living and well. The labor was absolutely normal, and he was normal at birth. After one month on the breast, he was fed condensed milk and malted milk. At eighteen months he had a gastro-intestinal upset and pneumonia, and has not been well since. He had pertussis in 1922, with a good recovery. His mother stated that for some time past, he had consumed large quantities of water, and voided large amounts of urine. A diagnosis of diabetes insipidus had been made by another physician. He had been acutely ill for three weeks, and had had some elevation of temperature which lasted for twelve days, had anorexia, and had vomited several times.

He weighed but twenty-nine pounds, and was poorly developed. His rectal temperature was 99° F. Otherwise, nothing of importance was discovered.

His diet was outlined, and a tonic was prescribed. His mother was instructed to return in a few days with a specimen of urine. On December 26, 1924, he was again brought to the office much improved. No specimen of urine was furnished, however. He was not seen again until April 10, 1925, when he was admitted to the hospital at 11 a. m.

He had been ill since April 6th, had had several chills, and his respirations were rapid, but had no cough. The family physicians had found no increase in temperature.

He was delirious; his expression was anxious; rectal temperature 95.6° F.; throat negative, and neck somewhat stiff at times; respirations deep and pauseless, with an expiratory grunt but no cyanosis; pulse weak and thready. There were a few fine moist râles at the base of the left lung. There was no dullness or bronchophony. The reflexes were normal. The urine was loaded with pus. At 9 p. m. he was apparently much worse. The pupils did not react, and there was a strabismus of the left eye. There was also tetany and convulsive movements of the right hand. Death occurred at 9:30 p. m. No diagnosis was made prior to autopsy.

The postmortem examination showed the brain to be normal throughout; edema of the lungs; acute mucopurulent bronchitis; acute peribronchial lymphadenitis; nothing of importance in the stomach; small and large intestines healthy throughout; chronic perihepatitis and fatty degeneration of the liver; chronic perisplenitis; caseous tuberculosis of the mesenteric lymph nodes; and a normal pancreas.

Both kidneys, the ureters, and bladder were removed intact. The bladder measured 6 by 4.5 by 3 cm. It was rather small, hard, and inelastic. The wall measured 0.8 cm. in thickness, and was rather fibrous and edematous. The mucosa was thrown into coarse folds, and was somewhat granular and lusterless. The prostate was apparently normal and healthy. The openings of the ureters through the bladder wall would admit a probe, but it could not be passed beyond. The left ureter was widely dilated and tortuous, being as thick as one's index finger. When opened, a thin, creamy, purulent material exuded from it. This enlargement of the ureter continued to and involved the pelvis of the kidney.

The kidney itself remained only as a thin, fibrous shell, measuring 5 by 4 by 2 cm. None of the renal substance whatever could be discerned, and it was lined by a finely granular, dull, lusterless membrane. The opposite ureter was likewise dilated, but not so much as the left, nor was it so tortuous. The left kidney measured 6.5 by 4 by 3.5 cm. Its surface was somewhat irregular and nodular, its upper pole being more prominent than the lower. When opened, two large cavities were seen that in the upper pole measured 2.5 cm. in diameter, and contained a green purulent material. This was lined with a finely granular, pale yellow, pyogenic membrane, and opened into the pelvis of the kidney. The other cyst measured only 2 cm. in diameter. Its wall was smooth, white, shiny, and it was filled with pale serous fluid.

No growth was found in the heart's blood.

One might indulge in much speculation as to what was the primary lesion in this case: whether kidney, ureter or bladder, and whether this lesion was congenital or acquired. This child was but 4 years old and rather young to have such extensive pathology of the urinary tract. Also, with the findings at autopsy, the symptoms of polyuria are certainly unusual. The child evidently died of uremia.

MALARIA IN THE TREATMENT OF GENERAL PARALYSIS

REPORT OF CASES

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We have seen the abandonment of so many methods once heralded as of value in the treatment of general paralysis that some skepticism as to the worth of any additional measure proposed may be pardoned. The prognosis of this disease is, however, so uniformly unfavorable that one is not willing to ignore, without trial, any procedure which physicians may feel has favorably influenced its course in even a small proportion of their patients.

It has repeatedly been observed that the progress of general paralysis was at least temporarily interrupted by the incidence of some acute condition associated with a marked rise of temperature. Similar observations suggested to Wagner-Juaregg, as early as 1887, the advisability of employing in the treatment of his patients some agent capable of producing such a condition. He first employed tuberculin, and later made use of antityphoid vaccine for this purpose. Although his results were fairly encouraging, he continued to seek for a more efficient agent, and in the year 1917 decided upon malaria as a disease which could bring about the desired rise in temperature and which would at the same time be under his control. Since report was made of his first series of patients so treated, many Continental and English psychiatrists have employed the method with varying degrees of success. While the results obtained by these men were not altogether so favorable as those of Wagner-Juaregg, the consensus of their opinions seems to be that in malaria has been found an agent of value in the treatment of general paralysis.

American physicians were rather slow to take up this new method of treatment, and not until the spring of 1924 was any report made by them of results which followed its employment. During the years 1923 and 1924 quite a number of patients suffering from general paralysis were treated by inoculation with malaria at St. Elizabeth's Hospital, Washington, D. C., and at the New York Psychiatric Institute, Ward's Island. The method has been employed in other hospitals and in the United States Navy, but no reports from these sources are available.

Method of Treatment

Inoculations may be made either subcutaneously or intravenously. In the former case, 5 c.c. of blood are withdrawn from a vein of one suffering from the tertian form of malaria, and immediately injected into the subcutaneous connective tissue of the patient to be treated. In the intravenous method, from 1 to 1.5 c.c. of typed citrated blood from a patient already under treatment is injected into a vein. In either case, from 10 to 18 paroxysms are allowed to occur before the malarial process is halted by the administration of quinin.

It has been suggested by certain investigators that the good results obtained in general paralysis by inoculation with malaria may be due to the production of antibodies or other substances which are influential in destroying the spirochete or in preventing its multiplication. Others believe that the high temperature alone, being not constant but coming in successive waves or shocks, may have the same effect.[1] Others still are of the opinion that the coincident anemia is followed by an active and rapid regeneration process which "leads to reactivation of immunity mechanisms."[2]

All of these theories are purely speculative, and no one is in position to speak authoritatively as to the process by which improvement is brought about. At the present time this treatment must be used empirically, trusting that knowledge will come with experience and study.

In our series of cases, the subcutaneous method of inoculation was practiced, chiefly because it was more simple, and typing of the blood was not required. With this form of inoculation the first paroxysm occurred after an interval of from 7 to 24 days. Following intravenous injection, paroxysms appear in from 3 to 7 days.

Before selecting a patient for inoculation, Wassermann tests of the blood and spinal fluid were made, also a globulin estimation of the spinal fluid, a cell count, and a colloidal gold test, the usual mental and physical examinations having been completed. In the latter part of our series a psychometric test was also made before the treatment was begun.

For our first few patients a temperature chart was started on the day of inoculation, but more recently the temperature was taken regularly for several days preceding the injection.

The patients under treatment were segregated and kept apart from the others in small dormitories, the windows and doors being guarded by screens and mosquito netting. These latter measures were carried out in order that we might escape criticism should malaria develop in one not inoculated, although the probability of transmission of the disease from patients under treatment seems to be slight. It is stated by M. K. Amdur that continental investigators have proved that "in this artificial malaria the transmission of the infection by the anopheles mosquito is impossible owing to the absence of the sexual forms of the parasites in the blood, or to other reasons."[3] This statement is, however, contradicted by certain other physicians who have employed the method of treatment.

In our series there appears to have been no diminution in the virulence of the process as it was transmitted from one group of patients to another, although the same strain was used in the inoculation of 38 patients, covering a period of 16 months. The temperature range remained about the same in the latter as in the earlier cases of the series.

Equally good results were obtained in so far as the transmission of the disease was concerned, irrespective of whether the blood was withdrawn during a paroxysm or in the interval between paroxysms.

Remissions

It is general knowledge that spontaneous remissions occur in a certain percentage of cases of general paralysis, and that these remissions may be brief or may extend over a period of some months.

In this connection, the matter of spontaneous remissions in untreated cases has been studied for the purpose of determining whether they occur more or less frequently than do those which follow the treatment by inoculation.

Tophoff, in reviewing the opinions of a number of continental psychiatrists as to the frequency of such spontaneous remissions, finds that while the individual opinions differ within wide limits (from 4 to 21 per cent), the average frequency as given by these authors is 11.9 per cent.[4] Dr. Mortimer Raynor, of the Manhattan State Hospital, made a study of the histories of

1,100 untreated cases of paresis during their residence in that institution, and found that spontaneous remissions occurred in only 3.5 per cent of the number.[5]

Of the St. Elizabeth's Hospital series, remissions occurred in 31 per cent of cases treated with malaria,[6] while in that of the Psychiatric Institute remissions appeared in 46 per cent.[7]

Dr. George B. Lake reports that in his review of 941 cases of paresis treated by a number of physicians, 291 (or 30.9 per cent) showed remissions, most of which were so marked as to admit of the patients' return to their former occupations.[8]

All investigators have been extremely careful not to employ the term "recovered" in reporting the results of their work, and prefer to speak of "arrest," "partial remission," and "complete remission."

Selection of Patients

While it appears that both recent and advanced cases of paresis have received benefit from inoculation with malaria, this method is not adapted to all patients irrespective of their physical condition. It is advisable that only those should be so treated who are in at least fairly good general health. Malaria is no trifling disease, but is one which is accompanied by a considerable degree of anemia. This anemia may become the final factor in a needlessly early fatal termination of the disease unless recognized promptly and combated vigorously.

General paralysis is manifested usually in one of three clinical types. In one there is seen elation, restlessness, expansive ideas, and other accompaniments of the manic state. In another is found depression, hypochondriacal and not infrequently persecutory ideas. The third type is characterized by a gradual deterioration both mental and physical, without any marked emotional disturbance or psychotic symptoms. The results of treatment are most gratifying in the first type of the disease, though the second and possibly the third also are susceptible to great improvement.

The best results will naturally be obtained in early cases when the syphilitic process has not already damaged the central nervous system beyond a certain point.

General Statement as to the Series

Our work dates from June 26, 1924, since which time we have continuously had patients under treatment. The first patient was inoculated with 5 c.c. of blood from an employee who suffered from the tertian form of malaria. The injection was made subcutaneously, in the scapular region. From this man two others were inoculated in the third week of his disease, and at intervals of approximately four weeks two or three additional patients were inoculated, the same strain being used for all of the 38 treated.

Of the series, 24 patients exhibited the active, expansive form of general paralysis; 8 the depressed, hypochondriacal, or persecutory form; and 2 the deteriorated form.

Twenty-seven were in good physical condition, the health of six was impaired, and one was in such a feeble state that considerable hesitation was felt in regard to making the inoculation.

The age of the youngest patient treated was 21 years, that of the oldest 59 years, the average age for the group being 37 years.

Eleven of the number had received antisyphilitic treatment before admission, and 6 were said to have had no treatment, while in 18 instances no information in regard to treatment was elicited from either the patients or their relatives. During their residence in the hospital, 6 had been treated by mercury and intravenous injection of salvarsan previous to inoculation, but had received no benefit from these measures.

While statements as to the duration of general paralysis were not absolutely accurate, from the information we were able to secure it appeared that the shortest duration of the disease previous to inoculation was 2 months and the longest 4 years. In 26 instances the duration was 18 months or less, in 5 it was from 2 to 3 years, and in 2 even an approximate duration could not be estimated.

By 17 members of the group alcoholic habits were admitted, and by 11 they were denied.

While the whole number of patients under treatment is 38, we report only 34, as the remaining inoculations have so recently been made that the results cannot yet be determined.

Of these 34 patients, 28 developed malaria after the first injection, 5 received two injections, and 1 received three. One of those who were twice inoculated failed to have a single paroxysm.

Paroxysms

In two instances only one paroxysm occurred. This single paroxysm followed the first inoculation in one instance and the second in one. The temperature of the one patient during the single paroxysm reached 105.4°, while that of the other did not exceed 104°.

In three instances the paroxysms ceased without treatment after 6 had occurred, nor did they reappear after a second injection was given. In all other cases paroxysms continued until the

administration of quinin was begun. In only one instance did a paroxysm occur after the first dose of the drug, and this was limited to a single chill with rise of temperature.

The average interval which elapsed between the inoculation and the first paroxysm was 14 days, the shortest being 7 days, and the longest 24 days.

The number of paroxysms observed in patients who recovered from the malaria was as follows:

Number of Paroxysms	*Number of Cases*	*Number of Paroxysms*	*Number of Cases*
1	2	13	1
6	3	14	1
9	4	15	2
10	4	17	2
11	1	22	1
12	5		

The inoculated disease followed an atypical course in many instances, in that the intervals were not always regular. Instead of paroxysms on alternate days, they occasionally appeared daily for a time, again after an interval of from 3 to 4 days. The longest interval between paroxysms was 8 days. Our experience in this respect parallels that of others who have employed this form of treatment.

The maximum temperature recorded during a paroxysm in the case of patients who recovered was 107.4°.

The following tabulation shows the maximum temperatures, and the number of cases in which they were recorded:

Maximum Temperature	*Number of Cases*	*Maximum Temperature*	*Number of Cases*
103°	1	105.6°	2
104°	1	105.8°	5
104.4°	1	106°	4
104.8°	2	106.4°	2
105.2°	1	107.4°	1
105.4°	6		

Here again an atypical course of the disease was shown. In one paroxysm the temperature might be high and in the succeeding one several degrees lower, only to be again elevated during the next.

In the case of patients who died, the following number of paroxysms were noted:

3	paroxysms	2
5	"	1
7	"	2
10	"	1
12	"	1

In one instance death occurred 23 days after the last paroxysm; in another, after an interval of 3½ months.

The maximum temperatures recorded for this group were as follows:

Maximum Temperature	*Number of Cases*
103.4°	1
104°	1
105°	1
105.4°	1
105.8°	2
107°	1

Few of the patients who failed to recover were in good physical health at the time of inoculation, and it would probably have been wiser in several instances to postpone the treatment until some improvement had been made in this respect.

In all cases of this group the inoculated disease ran an atypical course as shown by the irregular incidence of the paroxysms and the fluctuations in temperature.

Death occurred within one week after the last paroxysm in 3 instances, after two weeks in 1, while, as already mentioned, the intervals in 2 instances were 23 days and 3½ months respectively.

The termination of these cases illustrates the need for carefully selecting the patients to be treated, for although the inoculated disease is easily controlled, it may produce a severe anemia and a profound prostration. Its production is, therefore, justified only in the cases of those who possess a fair chance for recovery from the malaria.

In at least three members of this group, death could not have been attributed to the influence of the malaria. In four, it may have hastened the fatal termination. Certainly this seems to have been the case in two instances.

An unfortunate feature in connection with our work was the failure to secure necropsy in the case of a single patient who died. In each instance, however, the necessary permission was refused.

Convulsions and Complications

Only two of the patients under treatment had suffered from convulsive attacks prior to inoculation, and in neither instance was the malaria followed by such seizures. A series of 18 convulsions within 24 hours followed the single paroxysm observed in the case of one patient, and as a residual a mild aphasia persisted for several weeks. In another instance a similar series of attacks occurred on the third day after the last of 12 paroxysms, and was responsible for the death of the patient who had shown neither mental nor physical improvement as the result of his inoculation. When consideration

is given to the frequency with which convulsions occur in general paralysis, the connection between the malaria and the incidence of convulsions in the two cases just mentioned is extremely doubtful.

Among the group of patients who recovered from the malaria, complications were neither numerous nor grave. They were confined to anemia of fairly mild type, edema of the ankles, slight jaundice, and epistaxis.

There were encountered as complications among the patients who died, myocarditis in 4 instances, edema in 3, a marked anemia in 6, and chronic nephritis in 1. The patient whose death resulted from chronic nephritis gained physically for some weeks after his last paroxysm, then lost ground gradually and died 3½ months after the completion of the treatment.

Results of Treatment

The series here reported is comprised of 34 cases of general paralysis, in which 27 of the patients were males and 7 were females. All types of the disease were represented. Of these 34 patients, 26 recovered from the disease with which they were inoculated, one failed to develop malaria even though twice inoculated, and 7 died. The number of deaths is probably no greater than it would have been had all patients remained untreated, while the improvement noted in the condition of most of those who recovered fully justified the measures employed.

The results obtained from the treatment of these 26 patients may be tabulated as follows: Unimproved 5, improved 9, complete remission 12. By "complete remission" we mean that the mental condition of the patient was, at least temporarily, restored to its normal, in so far as this could be determined by the usual psychological examination. We do not intend to convey the impression that there was a disappearance of the physical signs of the disease, nor that the serological tests showed a normal blood and spinal fluid. Such results were not obtained in a single instance, nor were they anticipated.

Sixteen of the 26 patients who recovered from the inoculated disease are now at home on parole, and 14 of the number are engaged in some form of work. Some have returned to their former occupations, and some are occupied in work of a more simple character.

Of the 34 patients treated, 43 per cent have already been released from the hospital, whether temporarily or permanently cannot yet be determined. Only one of the patients paroled, and who is not included in the sixteen mentioned, has been returned to the hospital. It appears that this action was taken solely because of domestic difficulties, as her subsequent behavior has been that of a normal person except for slight irritability.

When we consider that not more than 3 or 4 per cent of untreated patients exhibit a degree of improvement which warrants even a temporary parole, we must believe that our ability to parole 43 per cent of the patients treated is no mere coincidence.

Many of the patients manifested quite an interest in their treatment, and developed an enthusiastic attitude toward it. As convalescence proceeded many expressed a genuine feeling of well-being quite different from the elation which characterizes the paretic, and which was in contrast with their previous complaints. Together with this emotional change there was a gradual disappearance of delusions, an increased interest in work, and good insight into the previous mental state.

On October 1, 1925, the duration of time which had elapsed since parole was granted was as follows.

Number of Months	*Number of Patients*	*Number of Months*	*Number of Patients*
10	1	5	1
9	4	4	4
8	1	3	1
7	1	2 or less	3

Along with the improvement in the mental condition, there has not often been a corresponding change in the physical signs, possibly because the damage to the nervous system was already beyond repair. Exaggerated or lost knee-jerks have not become normal, the pupil has not regained its ability to react to light, nor have speech disturbances and ataxia often entirely disappeared, but in certain cases one or all of these symptoms have become less marked.

The changes which occurred in the physical signs may be recorded in tabular form:

Table I

Physical Signs	*Unchanged*	*Modified Favorably*	*Modified Unfavorably*	*Disappeared*	*Total*
Knee Jerks	17	6	1		24
Muscular Tremor	6	7	4	7	24
Disturbance of Articulation	8	2	2	4	16
Incoördination of Gait	2	1	1	2	6
Pupillary Reaction	15	8	3		26

The most noticeable changes in the serological picture occurred in the globulin estimation of

the spinal fluid, the cell count, and the colloidal-gold curve. The blood Wassermann became negative in only two instances, and the normal was not reached in the spinal-fluid Wassermann, although the latter was favorably modified in a number of instances. These changes, too, may be tabulated:

TABLE II

Spinal Fluid	*Unchanged*	*Modified Favorably*	*Modified Unfavorably*	*Negative*	*Total*
Wassermann .	18	3			21
Globulin	4	4	1	10	19
Cell Count ...	2	13	2	3	20
Colloidal Gold	2	14	4		20
Blood					
Wassermann .	22	2		2	26

Five of the patients who recovered from the inoculated disease failed to gain in weight. The smallest loss was 3 pounds, the greatest 17 pounds. Among this number were two obese women who lost respectively 14 and 17 pounds. The weight of 19 showed a gain, from a minimum of 5 pounds to a maximum of 34 pounds, the average increase for the group being 18 pounds.

Improvement, when it does occur, may be manifested within one month of the completion of the treatment, but full improvement cannot be expected until at least three months have elapsed. What further improvement, if any, may follow subsequently is a matter which must be left to the future for determination. In several of our patients who have returned home, improvement has, however, continued beyond the three-months' period. Possibly the lapse of a longer time may bring still further modification in the serology of these cases.

We recognize, of course, that results obtained from the treatment of 34 cases of general paralysis can form no basis for judgment as to the value of any method of procedure. The results of our work have, however, been much more encouraging than those which have followed the employment of any other measure previously adopted. They are reported for the reason that it is only through the collection of the experiences of many persons representing a large number of cases that the final worth of any remedial procedure can be determined. Certainly our experience thus far warrants us in adopting a hopeful attitude toward the method employed, and justifies us in following it until some other is found which offers greater promise.

We recognize also the many possibilities of error presented by the personal equation which cannot be excluded from either clinical or laboratory reports; by our inability to make repeated and thorough examinations of paroled patients; and by the press of other duties which often precluded the making of the desired full records of our cases. But we feel that even this incomplete report should be made in order to encourage others to investigate this matter personally and to determine for themselves the worth or lack of worth in this method of treatment.

At the present time it is impossible to predict the future course of the disease or to say that there has been in any instance more than a temporary arrest of the process. Whatever our subsequent experience may be, we now feel that in malaria we have an agent which renders the prognosis of general paralysis more hopeful than was the case prior to its employment.

SUMMARY

We report 34 patients suffering from general paralysis who were treated by inoculation with blood from one having malaria of the tertian type.

Twenty-six of these patients recovered from the inoculated disease, 7 died, and 1 failed to become infected. Of the 26 patients, 5 were not benefited by the treatment, 9 were improved in greater or less degree, and 12 exhibited complete remissions. Seventeen of the number have been paroled from the hospital, and 16 are still at home, many of them having reëngaged in their former occupations.

The results obtained in the series of cases prove that there may be no correspondence between the mental improvement and the changes in the physical signs of the disease nor in the serological picture. Several of those manifesting complete remissions exhibited no favorable modifications in these respects. In only a small proportion of the cases did the Wassermann tests of the blood and the spinal fluid show changes which could be attributed to the malarial process. While physical signs were favorably modified in a number of instances, in no case did they all show a return to the normal.

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CONFERENCE ON LICENSURE OF DRUGLESS THERAPISTS

A meeting of the State Board of Medical Education and Licensure was held in the Department of Public Instruction, Harrisburg, Pa., on Thursday, March 25, 1926, at 9:00 a. m., in conjunction with the officers of the medical societies of the State of Pennsylvania. The following representatives were present: Dr. I. G. Shoemaker, president, Dr. H. W. Albertson, president-elect, and Dr. W. F. Donaldson, secretary, of the Medical Society of the State of Pennsylvania; Dr. H. S. Nicholson, and Dr. E. R. Snader, secretary, of the Homeopathic Medical Society of the State of Pennsylvania; Dr. E. R. Blough, president, Dr. C. F. Flannery, secretary, Dr. R. E. Holmes, and Dr. W. O. Keffer, of the Eclectic Medical Society of Pennsylvania. The following Board members were present: Drs. I. D. Metzger, Adolph Koenig, William M. Hillegas, Walter E. Lee, M. V. Hazen, Charles H. Miner, and C. D. Koch.

Dr. Metzger made the following statement: "The purpose of this meeting has been explained to you in letters sent out to the secretaries of the various societies. This meeting was called because of the fact that we are facing a situation in which we want to have the aid of all the doctors in the State. The Board has always been anxious to have the aid and advice of the members of the profession, and especially in a case of this kind are we eager to have your advice and help. It has to do with the illegal practitioners who are in the State. The Board has been making an effort to have a survey made of the situation in the State by determining, if possible, who is located in each district, not only as drugless practitioners but also as regular practitioners.

"In order to set before you just how the Board came to have control of these drugless therapists, permit me to explain that in 1913 the Legislature passed an amendment to the Medical Practice Act to the effect that the Board shall have control of those who pretend to do a special type of practice. On the strength of that part of Section 6 of the Act, the Board assumed control over what we designated as drugless therapists, such as naturopaths, chiropractors, and various other types of practice in which surgery and medicine are not used; also, supervision over the massage part of the healing art, as well as chiropody. On the strength of the amendment to the Act, rules and regulations were set forth covering these three general classes of the healing art. The bulletin which was sent you covers the regulations of the Board.

"The first question that needed to be determined was whether the Board had a right to establish these regulations and rules and to assume control over these practitioners. The matter was brought to issue in two cases. A chiropractor was arrested in Somerset County and found guilty. The case was appealed to the Superior Court, and Judge Orlady wrote a decision stating in effect that anything that had to do with the healing of the human body constituted the practice of medicine. The second case was that of a neuropath in Philadelphia, who was found guilty. He appealed to the Supreme Court, and Judge Orlady's decision was sustained. The objection of the Board to the new bill introduced in the last Legislature was that a new act would invalidate these valuable decisions. In view of these decisions, there is no question about the right of the Board to make these regulations.

"The amendment was passed in 1913, and became effective January 1, 1914. It immediately became necessary to formulate some regulations by which these outsiders should be controlled. Rules and regulations were formulated in which they were required in the future to take an examination covering their several lines of practice. Their license was to be limited strictly to the branch in which they were examined, so that such a license would not give them the right to transgress these limits nor to use medicine and surgery. In order to put this law into operation, the Board decided that a certain length of time should be given to those who had already been in *bona fide* practice in which to register and be licensed without taking an examination. Quite a large number of drugless therapists and physiotherapists registered. Some did not. A few of these have been coming up from time to time, claiming the right to be registered. If such passed the six months' time limit without registering, they could not be licensed without passing an examination. In order to determine whether applicants were in practice, we checked up on each one. Every enactment provides license automatically to those who were then in practice. This is the reason why drugless therapists are so eager to have their own act passed; it will exonerate and legalize all those who are now outlaws in practice.

"We have in the State at the present time large groups who have not qualified. The regulations for drugless therapists, set forth in 1914, require the same preliminary education as was required for physicians. The professional training covered two years of science work, to be similar to that given in a medical college with the exception of such branches as had to do with medicine and surgery, and two years of diagnosis, hygiene, and pathology, with the particular form of treatment which they elected. It was not long until the cry was raised all over the State that these requirements were prohibitive. Furthermore, they claimed the law did not apply to them. This contention, as stated before, was overruled by the Courts.

"A year and a half ago, after thorough consideration with the Medical Legislative Conference of Pennsylvania, the Board decided to change the professional requirements to a three-year course—two years of scientific work similar to that given in medical colleges, and one year of pathology, diagnosis, hygiene, and practical training in the line in which each applicant desired to practice.

"The question now before us is what disposition to make of these illegal practitioners within our midst. The local communities have been remiss in not prosecuting each as he presumed to enter practice. The State Board had no funds with which to do so, even though it has appealed earnestly for funds before each session of the Legislature since 1914. Drugless-therapy schools proceeded to graduate class after class, even within our own State, upon inadequate courses of their own making. Graduates claim they were advised to proceed to practice regardless of any State regulation, and to join associations established for their protection against prosecution. This has developed the precarious situation in which these illegal practitioners find themselves. The Registration Act, recently passed and now operating, "spots" definitely those who are unlicensed, and is causing much uneasiness among them.

"Funds netting approximately $10,000 a year are now available from the Registration Act. You have been invited and have graciously agreed to confer with the Board on devising ways and means of dealing with this situation."

Informal inquiries and discussion by members of the conference brought out the fact that the Legislature had recompensed the Board for the money secured by registration and had paid directly into the State Treas-

ury an amount of $26,000 for two years, but that the administration of the Registration Act in printing, postage, extra clerk hire, etc., would require about five or six thousand dollars for the two years. It was also reported to the conference that the Board now has two full-time investigators and one part-time investigator in the field who are making a critical survey of all practitioners of the healing art now operating, this to be used in checking up the registration and in subsequent prosecutions. Lists of licensed practitioners will later be sent to the secretary of each county medical society for consideration of each group.

The reports of investigators thus far seem to indicate a less number of drugless therapists in practice than alleged by representatives of their societies before the Legislature last year. The number then reported was 1,500, with about 450 of these licensed.

The chairman explained that the Board has been earnestly solicited to grant another last chance to those who are practicing illegally to qualify by admitting them to an examination without regard to preliminary or professional qualifications, providing they have been regularly engaged in practice. The drugless societies of the State have urged this, and have volunteered to suggest the names of those best qualified. Obviously, this would cover those who are members of the varied societies. The societies, although led in some cases by unlicensed practitioners, desire to decide who is qualified to practice. If the Board should grant this, it would result in securing the goodwill of the best drugless therapists and their subsequent aid in the prosecution of others.

Standards have already been set and in effect since 1914. Shall the Board, for the sake of expediency, attempt to modify these standards as requested? It is doubtful whether it may legally do so, were it inclined to. The welfare of the citizens of the State whom we are sworn to protect needs our first consideration. On the other hand, to attempt to prosecute such a large number will be difficult, and will involve much energy and expense. If the Board must act alone in these efforts, it might wish to attain its ends by easier means; if it will be supported by the profession, it cheerfully undertakes the sterner task.

Dr. Hillegas presented clearly the advantages to be gained by permitting another examination on some basis of lowered standards, by which a large number might be licensed. He realized the responsibility of such action, but wondered whether it might not in the end result in better protection for the citizens of the State. He is assured that two schools in Philadelphia will immediately raise their standards.

The conference continued as follows:

Dr. Metzger: I think we should first of all attempt to think out whether it would be wise to give this special examination. Mr. Fry is one of our investigators, formerly from the Department of Health, and I think we ought to get his reaction.

Dr. Shoemaker: Does the registration law cover every branch of the healing art? Is any person not registered from now on liable to prosecution?

Dr. Metzger: It covers every branch of the healing art.

Mr. Fry: I find that the registered man is very much opposed to the nonregistered man, and he is willing to help us in most anything at all. He is only too ready to hand you out the name of the man not registered. The Palmer people are in the majority, and they have an association of their own. There is also the United Chiropractic Association. They are very quick to tell you that in case of trouble we should just keep our hands off, and the association will fight. The association is worth about $230,000. There are about 220 of them, and about 10 per cent are licensed.

Dr. Koenig: How do you account for the fact that the head of their association is an unlicensed man?

Mr. Fry: You can readily see why, when you consider that only one in ten is licensed.

Dr. Koenig: With how many do you come into personal contact?

Mr. Fry: I have not yet tried to get in personal contact with the unlicensed ones.

Dr. Metzger: What is your idea of the general intelligence of this class?

Mr. Fry: They are not very intelligent. Some are motormen, paper hangers and mail carriers. They come from every walk of life. I inquired about some of them, and one was a silk-mill worker, and another a foreman of a cigar factory.

Dr. Miner: If this Board should license a large number of these practitioners, then we should have the responsibility of putting upon the public men that we feel are incompetent to diagnose a condition and treat it. That is a grave responsibility.

Dr. Metzger: For that reason, personally, I feel that there should be some preliminary qualifications. A four-year high-school course should be the minimum. The professional training should consist of at least three terms of six months each.

Dr. Donaldson: How much will you weaken your stand with the Legislature if you let down the bars and put them back up again? I doubt very much, when it is the health of the Commonwealth at stake, if you can afford any concession.

Dr. Holmes: I should like to state that when I got this notice, I went to a meeting of our staff (Polyclinic Hospital, Harrisburg). I told them what was going to be discussed, and they immediately took it up and passed a resolution recommending that you live up strictly to the requirements. The president of the Dauphin County Society was there, and he said he would bring the matter before his society. The medical men will stand back of you, and they do not want the dignity of the profession destroyed.

Dr. Koch: I interviewed about twenty physicians in Harrisburg, and every one took the position that for the sake of the profession you could not afford to modify the requirements. Immediately these people will put out their shingle beside that of the regular physician, both licensed by this Board, and both in competition.

Dr. Donaldson: When I received your letter I thought that if I could get the reaction of some of the county societies it might be helpful. I asked them four questions. The first was: "To the best of your knowledge, how many chiropractors who were practicing in your home town in 1923 or 1924 are practicing at the present time?" I find that probably 75 or 80 per cent practicing two or three years ago are still practicing. Second, "How many chiropractors have abandoned practice and returned to their former vocations?" The answer was "one," in most cases. It is perfectly evident that they do not abandon practice. Third: "How many chiropractors are at present located in your home town or in your county?" I find that in Beaver County there are at least fifty, in Butler twenty, in Chester eight, in Lycoming twenty, etc. Fourth: "Have any drugless therapists in your county, in your opinion, by their past activities filled a place in the community that might indicate that they are not a menace to public health, but occupy a community place that satisfies the demand for physical manipulations in the art of

healing?" There were four who gave a favorable reply. One man says "one or two." Most of them say "no," or that they are a menace because they fail to recognize contagious diseases, etc. The survey may not be of any particular service, but I also have the individual replies.

Dr. Metzger: That harmonizes very well with my own conception of the situation.

Dr. Koenig: Do you not think that the four favorable replies refer mainly to masseurs?

Dr. Donaldson: Yes, I mentioned physical manipulation.

Dr. Metzger: We still have before us the matter of dealing with these particular cases. When we come to prosecuting, it is a slow process. To get specific witnesses against these people is a difficult proposition. You must have witnesses before you can bring any cases before a jury. Many feel that to lower the standards would be to weaken the whole Act, and we should probably be in worse shape.

Dr. Hillegas: I am not proposing weakening for the future. If we do not encourage some of the schools of drugless therapy, we shall never get the standards raised. If we do not do something by way of licensure, we might as well not have any regulations.

Dr. Koch: I have interviewed a number of these unlicensed people, and most of them say that if the Board insists, they will make up the high-school work and do any additional work that the Board requires. I am very sure that we should lose the respect of the twelve or thirteen thousand medical men in the State if we were to give this wholesale examination.

Dr. Metzger: The proposition before us is, would it be wise, in your mind, to devise a plan by which there might be given another final examination? If we give them one examination, we are required in case of failure to give them a second. We are required to place on file in the Department of Public Instruction the documents which give us the legal right to admit them to the examination. Can we admit them without such documents? The Department insists upon receiving credentials of applicants who take the examination. Can we as a Board admit them without these requirements? We have set forth these regulations, and can we legally and morally let them down? Shall we change our regulations? I should like to have an expression from each one of you regarding this.

Dr. Albertson: I want to go on record as opposed to lowering the standards in any manner. I want to support this Board in every way that I possibly can, but I believe we are not going to get out of trouble by granting licensure to a lot of people who are incapable of practicing medicine and practicing it scientifically.

Dr. Miner: I feel the same, that we have a very grave responsibility in licensing anybody to practice any form of treatment of the public. I personally feel that I do not have any right to vote to lower the requirements.

Dr. Donaldson: As a thoroughgoing organization man, I recognize the appeal of expediency, but you are dealing with the health of the public, and I believe this is not the place to apply expediency. Many of us may regret it, and enforcement may result in the passage of a law licensing all of these people, but the responsibility will not be on your shoulders.

Dr. Shoemaker: I voice the sentiment of practically our entire medical society when I say that I think you cannot consistently withdraw from the position you have taken. You are responsible to the public, and if you license anybody who is unfit to practice the healing art, I think you could be held accountable for a certain miscarriage of the law.

Dr. Nicholson: I concur in what has been said as to the responsibility of the Board for enforcing the law, as to the responsibility of the Board to the citizens of the State, and I believe the Board has responsibility to the man who has been practicing medicine. I think the law should not be let down, and I still believe that the Board is practicing the safest rule by enforcing the law. I believe, however, that these men who have been making a living in this way should be notified that they are practicing illegally, and at the same time should be sent a copy of the rules and regulations by observance of which they can practice legally. Notify them that they must submit to an examination. Stand on the present requirements, but give final notice to each one how he can meet the requirements, because many of them do not know.

Dr. Snader: I feel that the Homeopathic Society would vote entirely in favor of the present requirements.

Dr. Holmes: I am in favor of maintaining the present requirements.

Dr. Flannery: I am opposed to any change.

Dr. Blough: I am not in favor of letting down the bars.

Dr. Keffer: I still continue to think that it is the hardest thing in the world to get conviction. Our district attorneys are indifferent in the prosecution and cannot get juries to convict more than two out of a dozen. Now that the Board is encouraged to go on, they have all these things to contend with. It is a serious thing when you bring these prosecutions with a little bit of money, and you are going to be handicapped in the future just like the Board has been in the past, but I believe that you ought to stick to it. I am in favor of what the gentlemen have said.

Dr. Shoemaker: Would the court consider as *prima facie* evidence that a man is practicing the healing art if he displays a sign at his door?

Dr. Metzger: It is necessary to establish three things: First of all that the practitioner has made a diagnosis, second that he has given treatment, and third that he has received a fee.

Dr. Miner: The Board will have to realize, now that the physicians have registered, that the Board is going to arrest and convict a large number of chiropractors. They must be made to feel the difficulty the Board is going to have. They will have to be very critical.

Dr. Metzger: The question now is, shall we have the support of the various societies in fighting forthcoming legislation that is inevitable. We have our state meetings coming on in the various societies, and I think it is up to the members here to tell the others about the fight that will be coming on in the next Legislature. I wish you could candidly carry to the doctors of the State just what we have done here today, and, judging the Board as I know it, I can assure you that the action will be according to your wishes.

Dr. Koenig suggested that a reporter should be appointed in each Society to come to the meetings and see what is being done.

The president was instructed to furnish an abstract of the meeting for publication in the medical journals.

The president thanked the members of the conference for their willingness to coöperate with the Board, and solicited their further aid in its efforts.

The motion was approved that among the various other duties of Dr. Koch, when notifying the members of the Board of the dates of meetings, that he shall also send a notice to the editors of the State medical journals.

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EDITORIALS

DO YOUR DUTY AS A CITIZEN

As guardians of the public health, physicians are more than usually responsible for the election of competent and well-disposed government officials, and the primary election this year is of great importance. At this election, candidates will be nominated for the following offices: member of the United States Senate for 6 years, 36 members of the National House of Representatives, Governor of Pennsylvania, Lieutenant Governor, Secretary of Internal Affairs, 26 members of the State Senate, and 208 members of the State House of Representatives. Owing to the tricornered gubernatorial and senatorial contests for nomination on the Republican ticket, the primary election this year is of peculiar interest, and there is an urgent need for the physicians of the State to make an effort to determine how the various candidates stand on matters medical, and then to register their convictions at the polls.

Questions of vital importance already are promising to demand the consideration of the incoming Legislature and Government officials, and if the proper kind of men to decide these questions in the interest of the public health and of scientific medical development are to be placed in office, it will be necessary for the profession to present a united front—beginning at the primaries. Information as to the various candidates and their previous records can be obtained from the Secretary of the Medical Society of the State of Pennsylvania, and also from the Chairman of the Legislative Committee, as well as from personal interviews with candidates, and it is only with the coöperation of every member of the Society that best results can be obtained.

It is suggested by the State Chamber of Commerce that the question of voting be presented to other citizens with whom the doctors come in contact.

Remember the date of the Primary Elections is May 18th.

DISEASES OF THE BREAST

In this number of the JOURNAL appears a symposium on diseases of the breast which affords much food for thought on a subject so frequently requiring the opinion of the physician.

Women nowadays are so thoroughly awake to the importance of seeking an opinion when they find a "lump" in their breasts, that more than ever they consult their attending physician. It is he who sees them first, and the responsibility of the proper procedure to follow is his. Too frequently he dismisses the patient who has a palpable lump in the breast with the wave of a hand, a shrug of the shoulders, or a little pat on the back, telling her to "forget it," or "give it no further thought," or some equally trifling remark. On the other hand, would it not be better to consider the matter as probably malignant until it is proved to the contrary. The surgeon should see all such patients in consultation and share the responsibility. If this is done, much will be accomplished in reducing to a minimum the morbidity and mortality of cancer of the breast. This responsibility cannot be too strongly brought to the attention of the general practitioner.

What is the responsibility of the surgeon? It is demanded of him to make a definite diagnosis in all lumps in the breast, as to whether benign or malignant, and to urge the patient to follow his advice, in which the attending physician should concur.

A definite diagnosis should be made *before*

amputating a breast, *not afterward,* in order that unnecessary amputation may be avoided.

As to the surgical procedures, there is one matter of technic regarding which there seems to be a diversity of thought. As a matter of routine, we are of the opinion that all cases of removal of the breast for malignancy should be radiated prior to operation, and should receive intensive postoperative radiation too. These are essential, and cannot be too strongly urged. When there is evidence of recurrence, more especially in patients who have not received routine postoperative radiation, the patient should be sent immediately to the roentgenologist, if radiation is to avail. The trouble is that unfortunately such patients are withheld from radiation until it is too late, and as a "last hope" are referred for x-ray treatment. We desire to stress the point *send them early;* they cannot be sent too promptly. In many instances it will be found that the radiation was not at fault, but rather the fact that the patient was not afforded the advantage of it soon enough.

DOUBLING OUR INCOME

At the low estimate of $200 apiece, the 7,600 readers of the ATLANTIC MEDICAL JOURNAL spend an annual average of $1,520,000 on merchandise and supplies associated with the practice of medicine. In contrast to this immense expenditure, the merchants who cater to this trade return to the JOURNAL considerably less than $10,000—a sum which does not begin to pay the cost of printing alone.

This is too small a percentage, and the management is making a continuous effort to increase it, with the result that the income from advertising has been doubled in the last six years. To make further progress, however, the coöperation of our readers is required. Merely to *patronize* the advertisers is not sufficient, apparently; they must be made to *realize* that this patronage is contingent upon their advertising. This does not mean that every order should be accompanied by the information that "I saw your ad. in the JOURNAL"; but rather that once in a while a letter should be inclosed such as, "I see you continue to advertise in our JOURNAL, and want you to know that is one reason I continue to patronize you."

The further help of our members is also needed in securing new advertisers. The direct-by-mail advertiser will tell you that he sends his catalog to all the doctors in the country and that JOURNAL advertising would be simply duplication. Instead of merely dropping his catalog in the waste basket, you can help your JOURNAL materially by dropping this merchant a note saying that he cannot send a Government postal card to the members of our Society for the price that three half-page ads. in our JOURNAL will cost, and that you would be much more favorably disposed toward his proposition if it had the endorsement of your JOURNAL. Fifty such letters would doubtless result in prompt inquiry from the firm in question as to the price of advertising.

You can help, too, by asking the detail men who visit your office if their firms advertise in the JOURNAL, and if not why not, saying that you prefer to deal with JOURNAL advertisers, as you have more assurance that they are reliable.

If our readers will give us such coöperation, the advertising can again be doubled in a year, with profit to all concerned, for the commercial firm will advertise when it is demonstrated that this brings more business.

If the income from JOURNAL advertising can be thus increased, this will release a proportionate amount of the Society's funds for other constructive work. More can be devoted to the much needed Medical Benevolence Fund; more can be appropriated to the work of the Legislative Committee in combating the passage of the constantly recurring pernicious legislation; the Committee on Public Relations can be provided with funds adequate to their needs in the tremendous work of educating the laity; a better headquarters building can eventually be erected; and a bigger and better JOURNAL will be the reward of our joint efforts.

THE NURSES' OFFICIAL REGISTRY AT BUFFALO, N. Y.

Anent the nursing problem, attention is called herewith to an enterprise inaugurated by interested parties in Buffalo who are making a valiant attempt to show how the unfortunate situation existing in New York State can be corrected, by demonstrating what can be accomplished in Buffalo.

The following reasons are advanced by the governing board of the Nurses' Official Registry of Buffalo (opened January 1, 1926) for its organization: to maintain a high standard of education and character for the nursing profession; to eliminate commercialism and exploitation of the public which occurs when nurses are furnished without sufficient examination into their qualifications; to place responsibility for inefficient nursing where it belongs, so that all nurses registered are made accountable for the quality of their professional work and for ethical

conduct; to control charges and hours of service of nurses for the mutual protection of the nurse and the public; and to make possible more equitable distribution of nursing service for the benefit of the community.

The plan of organization of the official registry is as follows: The business is conducted by a governing board composed of members from and appointed by each coöperating nurses' alumnæ association; an equal number of members who are not nurses (representing the medical profession and laity), to be elected by the members; the president of the local League of Nursing Education; the president of the District Nursing Association; one physician appointed by the Erie County Medical Society to serve and represent the Society for two years; and a nurse appointed by District No. 1 of the New York State Nurses' Association to represent that association and serve for two years.

Ten hospital alumnæ associations, with the consent of the Board of Directors of the respective hospitals, are represented on the governing board. These hospitals have discontinued their own registries, and now secure all nurses through the official registry.

A few of the general regulations of interest to the public are: Any one desiring a particular nurse may secure her through the registry, as shown by the following rule: "The registrar shall keep lists of nurses by schools, as well as a general list, and shall fill a request for a particular nurse from a given school if she can do so. Otherwise, as far as possible, the calls shall be filled in the order in which the names appear on the general list." Discrimination in a case shall be allowable only when the case is of such a nature that the nurse is unfitted for it. The registry has a definite schedule of rates for all types of nurses, and a list may be obtained from the registrar by any person interested. Provision is made by the registry to receive calls for hourly nursing, and visiting or district nursing. The following paragraph from the rules of the registry gives information that one may obtain any kind of nursing service: "The Nurses' Official Registry will register graduate nurses, male or female, who have had at least two years' training in a registered or affiliated hospital accepted by the University of the State of New York, and who are members of the alumnæ association of their respective schools. Trained nurses (two years' training in a state hospital) who are licensed in the State of New York. Graduate nurses, other than R. N.'s licensed in the State of New York, acceptable to the eligibility committee. Trained attendants, male or female, licensed in the State of New York. Practical nurses." The graduate nurses applying for membership must present proper school credentials and state registration cards.

The annual dues for the graduate nurses are $12, payable in advance either for the whole year or half year. The annual dues for the trained attendants are $8, and for practical nurses $6 per year, both payable in advance either for the whole year or half year.

Upon application for registration, the applicant may express preference for any particular class or classes of cases which she wishes to nurse. She may also name any class of cases for which she can show a good reason to excuse her from nursing. Each nurse must be ready for duty at time of registering. A nurse receiving a call from the Registry is to start immediately, or notify the registrar of inability to do so. She must notify the registrar if out of reach of telephone longer than one hour. She must notify the registrar of change of address or telephone number. A nurse may retain her place on the Registry list for a period of 24 hours, provided she notifies the registrar of her inability to accept the call.

Physicians or patients needing a second nurse on a case are expected to secure her through the Registry.

Nurses refusing calls without good reason are to be taken off call for two days. Repeated offenses shall entitle the registrar to refer the matter to the board of censors.

The established maximum fee for graduate nurses, male or female, when engaged through the Registry, are as follows: General medical and surgical nursing, $5 per day for 12-hour duty; $6 per day for 20-hour duty. Obstetrical nursing, $6 per day for 12-hour duty. Each additional patient in family, $1 per day. Group nursing (two patients) 12-hour duty, $7 per day, $2.50 per patient. Mental, alcoholic, drug, and prostatectomy cases, and communicable diseases such as diphtheria, erysipelas, pulmonary tuberculosis (advanced stages), lethargic encephalitis, poliomyelitis, smallpox, meningitis, typhoid fever, and pneumonia, $6 per day for 12-hour duty; $7 per day for 24-hour duty. For the graduate nurse, other than an R. N. licensed in the State of New York, the maximum fees for general medical and surgical work are $4 per day for 12-hour duty; $5 per day for 20-hour duty. For trained attendants, maximum fees for general cases are $4 per day for 12-hour duty, $5 per day for 20-hour duty; for mental cases, etc., $6 per day for 12- or 20-hour duty. Practical nurses receive $25 per week for

all cases. Not more than three patients will be cared for at any one time. Nurses waiting for obstetrical cases are paid a definite amount at a rate agreed upon in advance by the patient and nurse. Fees for graduate hourly nursing are $2.50 for the first hour, and 50 cents for each succeeding hour. Nurses shall wear uniforms.

This registry is being tried out as a two-year experiment, and for the few months it has been operating the results have been satisfactory. After a careful perusal, the reader cannot fail to be impressed with the fact that much has been incorporated that should eliminate or reduce to a minimum many of the problems that have arisen in the relation of the nursing profession to the public and the medical profession.

LUTHER BURBANK

All the world mourns the death of Luther Burbank, the coworker with nature, who, withered by age, died at Santa Rosa, California, on April 11th, amid the flowering fruits and blooms that he created for mankind's benefit. "Oh, doctor I am very sick," were his last words, which were uttered to his physician, Dr. Joseph H. Shaw.

Luther Burbank has become a household name throughout the civilized world. Patience was the chief prerequisite to his success. With all that he had accomplished in plant life, yet he felt there was a still more important work than his own to be done by some one else who could breed a finer human race. "Inferior beings cannot be treated as if they were inferior plants," he said, "but if civilization is to endure, some way must be found to produce more of the fit and fewer of the unfit. Today we are little more than a field of wild weeds, in which, here and there, arises a superior type."

The honors paid to him for his achievements were richly deserved.

REGULATING MOTOR CAMPS

Now that spring has come, we must anticipate an increase in automobile traffic. The Sesqui-Centennial celebration in Philadelphia will greatly augment the number of tourists using the highways of our State. All communities, therefore, should be acquainted with the new rules of the State Department of Health requiring tourist camps for motorists to comply with specifications as to sanitary and other provisions. The ever-vigilant health officer must be more than alert this year, on account of the great influx that will take place of people from all over the United States and elsewhere. The question of water supply, the disposal of dejecta and rubbish, and the policing of tourists' camps must receive proper attention.

Then, too, there should be proper supervision of the various lunch stands, more especially the inevitable "hot-dog" emporium, which is being controlled by special legislation in some of the states.

The new regulations of our State are timely, and should be enforced to the letter.

THE PHYSICIAN'S VOCABULARY

Dr. Frank H. Vizetelly, lexicographer, who is continually at work on the Standard Dictionary, has written some very interesting articles on the number of words in the vocabularies of the business man, professional man, etc. He claims that a minister uses 14,296 words. This is of interest because one whose life is devoted to the use of words should have a more extensive vocabulary. "A physician knows 25,000 words, a lawyer knows 23,000 words, a newspaper editor 45,000 words, etc."

Dr. Vizetelly states that so far as the physician's or surgeon's vocabulary is concerned, "take a rough summary of matters with which he must be familiar: There are in the body of man 707 arteries, 71 bones, 79 convolutions, 433 muscles, 233 nerves, 85 plexuses, and 103 veins —total, 1,711. In addition to this, there are 1,300 bacteria, 224 eponymic diseases, 500 pigments, 295 poisons, 88 eponymic signs and symptoms of diseases, 744 tests, and 109 tumors, or a total of 4,968 matters relating to his profession alone. Then there are the names of some 10,000 chemicals and drugs of which he must have more than mere passing knowledge— total, 14,968 in all, and we have not referred to the science of hygiene, or to allied professions, as dentistry, etc., or to his home life, his motor car or airplane, and the world at large, of which he is so important a figure. These can barely be covered by 10,000 more—approximately 25,000 words."

UNREGISTERED HELP

Warning against "the dangerous practice of employing unregistered help" has been issued to drug stores throughout the country by the National Association of Boards of Pharmacy. The Association appeals to the loyal pharmacists of the nation to coöperate in controlling the situation. The State and Federal laws give druggists certain privileges and in return require certain responsibilities. In the conduct of the store the proprietor assumes these responsibili-

ties, and the public, in all confidence, is expecting these duties to be properly discharged.

Unregistered help is being employed to an alarming extent. In many instances stores are in charge of incompetent employees for approximately half of the time that these stores are open for business. By "incompetent" is meant that such unregistered help cannot, according to law, assume the responsibility of dispensing drugs and medicine, selling poisons and filling physicians' prescriptions. Such duties cannot be confined to the hours when registered clerks are in charge, especially if such registered clerks are on duty only half of the time. "Certainly the law does not contemplate that the public shall be protected only certain hours of each day. The patrons who happen in the store during the hours when no pharmacist is in charge are entitled to the same careful service as those who visit it at other hours."

If pharmacy as a profession is to maintain the respect to which it is entitled, men who understand the business should be the only persons privileged to practice it. This does not mean that unregistered clerks or salesmen may not be employed, but they should not be called upon to assume the duties of a pharmacist.

FAKE ACCIDENTS CALLING OF MANY

Accident frauds are costing public-service corporations thousands of dollars annually. Falling down subway stairs, getting struck by delivery trucks, breaking eyeglasses on trains—all these are tricks that serve in lieu of a day's work for a certain class of men and women, says the New York *Sun*. Many stories are told, almost unbelievable, of how men and women have inflicted personal injuries on themselves, and have gone to the greatest lengths in risks and inconvenience to collect fraudulent claims. Public-service corporations are the most frequent victims.

One of the most amazing cases ever investigated was that of a man who in three years' time collected a total of $90,000, most of it from the Interborough Company. In this particular case the claimant always succeeded in proving, with the aid of reputable physicians, that he was paralyzed as the result of his falls in the subway, on busses, and in the street. He once sued the Interborough for $50,000, and collected $500. This was for a fall down the subway stairs. He sued a doctor for $15,000 for being run down in Central Park, and was awarded $17,500 by the jury, which was won when he presented his paralyzed limbs for inspection. Investigation later disclosed that he had been paralyzed in youth, and that he was able to bring on the paralysis again at any time it suited him. This evidently is a case of "hysterical paralysis." Yet because of the unusual nature of this case, it was impossible to convince a jury that the man wasn't an actual victim of the carelessness of large corporations.

Framed up accidents in which the witnesses, and in a few cases even doctors and garage owners have been parties to the fraud, are on record, and which resulted in penitentiary sentences in several cases. Fraudulent repair bills are used in these cases, and they are among the most difficult with which to deal.

Another organized band which fattened on the railroads was broken up several years ago with the confession and conviction of a Mrs. Maud Johnson. Mrs. Johnson in her confession said that an organized band started this type of larceny in 1896, as being safer than the ordinary theft. The band even had its own attorney and a trained nurse, who always was sent ahead of it a few weeks and to whom the injured women always were sent, as though by chance. When a train would stop with a sudden jolt, Mrs. Johnson always had a severe hemorrhage. Occasionally she would clutch at the hand rail, which had been loosened by a member of the band, and the rail promptly gave way, throwing Mrs. Johnson to the floor, with the inevitable hemorrhage. But while Mrs. Johnson had tried the trick successfully on virtually every railroad in the United States, she tried it too often on the Northern Pacific, and it was discovered that a certain red powder produced the hemorrhages. None of Mrs. Johnson's cases went to trial, because, being a pathetic little figure, the companies felt it might be better business to settle out of court than to trust to a masculine jury for justice. Besides, they could not be convinced that the little woman was a faker, even though they may have suspected it. She finally got a penitentiary sentence.

One negro preacher who pleaded guilty some time ago, managed to obtain the most severe bruises at an hour of the morning when a preacher can have little cause to be about. Finally, after he had collected a large number of claims, he was shadowed. He actually fell off the "L," but detectives discovered later that a mere fall didn't hurt him. He went home and used sandpaper on himself, which resulted in the bruises that deceived even the doctors.

One Frank Marter collected $2,225 in two years on a disjointed right arm. He was a youth who actually had suffered an accident, and had collected on it in a manner that was entirely legal. But finding that he could disjoint his arm

at will, he made a practice of it. He also was sentenced.

PLAY AND HEALTH

Nowhere in the world are there to be found such opportunities for development of the play spirit as in America, and yet the All-Philadelphia Conference on Social Work was recently told that Americans are morbid and need to learn the art of play.

Perhaps this is true. While we support the most brilliant operatic and orchestral organizations in the world, attend the movies by the millions, and flock to see the Big League games; yet the facilities for popular participation in dramatics, community musical productions, and outdoor sports are very poorly developed. Our entertainments generally require only passivity, and do not sufficiently employ our own capabilities.

This may and doubtless does have a bearing on the much-discussed moral breakdown of the present day. The movies, the automobile, the lazy fox trot and the sex novel do not call for activity enough fully to occupy an alert mind, and the natural consequence is mischief. The only way to combat a destructive tendency is to substitute a fuller use of the constructive ability latent in all normal humans. When the creative urge is not usefully employed, it is bound to turn in the wrong direction.

The idea of the Playground Association of providing an hour of supervised play for all boys and girls is excellent, and where it is carried out, juvenile delinquency is reduced manyfold. The play supervisor may in time take the place of the discarded chaperon, and it is to be hoped that the playground idea will be extended still further, and organized play become a part of the life not only of adolescent boys and girls, but even of men and women. Local athletic teams, tennis, golf, outdoor skating rinks and tobogganing, water sports, outdoor plays and pageants—all are of far greater value than we realize. They promote a spirit of coöperation, pride in the community, and a common interest; they keep mind and body pleasurably occupied, and leave scant time and energy for pursuit of "thrills"; they give an opportunity for healthful exercise and sunshine for bodies too much housed under our present economic system; they furnish healthful companionship and activity to take the place of the passivity of auto riding and the vicarious adventures and perhaps morbid emotion aroused by the movies.

Play can be made a means of development not only for the child but also for the adolescent and the adult. And it is only by stimulation of normal growth that good health can be assured. To provide for play is a public-health obligation, and as such it is a subject of keen interest to physicians, and should be widely encouraged by the profession.

JOTS AND TITTLES

Scientific Research

1. A serum to immunize against all bacterial diseases is being studied by Dr. Arthur Locke of the University of Chicago, and Dr. E. F. Hirsch and Miss Edna Ruth Main of St. Luke's Hospital, Chicago. They are seeking to apply a theory which they have evolved after long experimentation. Such a remedy would save much valuable time spent in diagnostic study before treatment can be begun, and would be a boon to mankind if it can be found.

2. Drs. N. S. Ferry and L. W. Fisher, of Chicago, have announced in the *Journal A. M. A.* that they have discovered and isolated a minute organism, previously unknown, which they believe to be responsible for measles. It is small, Gram-positive, aërobic, and has been named *Streptococcus morbillo*. Dilutions of the toxin have been used to test for measles immunity, and have produced positive reactions in many persons with no history of measles and in only two adults who have had measles (which may mean that their immunity has expired). Positive results were not secured when the toxin was mixed with serum from convalescent patients, nor when mixed with serum from an animal that had been immunized with the toxin.

3. Excellent results with the use of an antitoxin for all types of pneumonia, when treated within 48 hours of onset, were reported by a group of Minneapolis physicians at a joint meeting of the American Association of Immunologists and the American Association of Pathologists and Bacteriologists, at Albany, N. Y.

4. Prof. L. Giardi Laura announced recently at a meeting of the Medical Association of the City of New York that he has discovered a serum which will reduce the blood pressure, and which he has named "hypotonsine." In experiments made with unselected patients, all over 60 years, and affected with diseases prevalent in the aged, several injections of the serum have been sufficient to restore the blood pressure to normal in many cases. "Following injection there was a response by a drop in blood pressure. This drop for the first three or four injections lasted from five to six hours. After six to eight injections, the blood pressure was lowered further."

5. An effective mosquito repellent has been discovered by Dr. William Rudolph Williams of Rutgers University. It is made by mixing ordinary insect powder extract with vaseline, cold cream, or face powder, using about 14 units of the extract to 96 units of the cream or powder. Spread on the face and hands, this mixture is said to be effective for several hours.

6. Discovery of an antitoxin against tetanus has been announced by Drs. Ramon and Zoeller before the French Academy of Medicine. Several hundred persons inoculated with small quantities of the virus apparently developed complete immunity which it is hoped may be permanent. The new antitoxin will be placed as soon as possible at the disposal of the medical profession.

7. An account of a report by Philadelphia pathologists on their efforts to confirm work of Gye and

Barnard in cancer is given elsewhere in this issue. Their results did not parallel those of Dr. Gye reported in the *Lancet,* and there is some reason to doubt the accuracy of the first reports, since Dr. Gye was forced to premature publication by untimely newspaper publicity. Maud Slye, whose experiments in the inheritability of cancer have been widely discussed, expresses herself as doubtful of the rôle of infection in etiology of cancer, since her experiments show quite definitely that the disease is not contagious or infectious in the ordinary sense, and that the lack of resistance to it is inherited as a mendelian recessive. The recent increase in incidence of the disease would seem to indicate, however, that inheritance is not the only element involved, and Dr. Kolmer, of Philadelphia, states his belief in the value of Gye's work, saying that it should be followed up further.

8. Tests recently made in the laboratory of experimental psychology at the University of Pennsylvania by Dr. Samuel Weiller Fernberger indicate that the emotions of fear and anger reduce the electrical resistance of the body. Confirmation of these results comes from Dr. Curt P. Richter, of Johns Hopkins, Baltimore, who has determined that sleep increases the electrical resistance of the body—in one instance from 30,000 ohms when the subject was awake to 500,000 ohms when the same individual was asleep.

9. Since the announcement of the discovery by Drs. George F. and Gladys H. Dick, of the Memorial Institute of Chicago, of scarlet-fever antitoxin, sufficient time has elapsed to have given it a thorough trial, and it is claimed that its administration blanches the rash, lowers the temperature, improves the general condition, and, when given early, greatly diminishes the incidence of complications and sequelæ. Used prophylactically in adequate doses, it prevents the development of the disease in susceptible persons, even after infection has occurred. The patents granted to the Dicks have been assigned by them to the Scarlet Fever Committee, Inc., of Chicago, for administration, and the Committee has granted the first license for the manufacture and sale of authorized scarlet-fever products to E. R. Squibb and Sons. Before distribution, every lot must be submitted to the Government hygienic laboratory and to the Scarlet Fever Committee for test and approval.

10. That Americans are losing their jaws and their teeth are decaying rapidly due to lack of the exercise provided by chewing of raw and rough foods is the warning of Dr. Frank T. Breene, dean of the College of Dentistry at the University of Iowa. Dentists have claimed for some time that the number of impacted teeth, and the degeneration of such teeth is an indication that the jaw bones are decreasing in size—which may or may not be proof of evolution.

Putting the Joy into Life

1. Dr. John D. McLean of Philadelphia said a good thing in a recent talk before the Kiwanis Club: "Most of the grouches who make things unpleasant for themselves and others can be cured. Usually the cause is that some minor thing is poisoning the system and making a man feel unpleasant and be unpleasant..... Have a health examination every year on your birthday, and find out how to remedy what is making you a grouch." That's a good way to put the joy into life!

2. The average span of human life today is fifteen years longer than it was 25 years ago, and ten years longer than it was 15 years ago. If the things we now know can be applied, according to Dr. J. S. Crumbine, of the Child Health Association, we can add ten or twelve years within the next score of years. The average age today is 60 years, while back in 1800 it was 33. The control of infectious diseases and better pre- and postnatal care are largely responsible for this gain, and there is every reason to expect further improvement in the near future.

3. "Health observatories," from which forecasts of approaching epidemics will be sent out, have been established in the 44 largest cities of Illinois by Dr. Isaac D. Rawlings, State health director, who adapted the idea from the Government weather bureau. Epidemics are no longer mysterious outbursts that spring out of nowhere and disappear just as suddenly, Dr. Rawlings declares. By the interpretation of carefully gathered statistics, and by following the path of the disease, he believes it possible to make an almost perfect forecast to aid in the work of prevention.

4. The challenge issued by the Philadelphia *Evening Bulletin*—"If science really wants to do something to brag about, it should find a cure for a cold"—is by way of being accepted by the Chemical Foundation, with Francis P. Garvan at its head. Mr. Garvan estimates that the annual loss to the United States because of the common cold is equivalent annually to 700,000 years, and he pledged the coöperation of the foundation in seeking a method to curb the ravages of this disease, or rather of these diseases, since colds are due to multiform causes. The American Drug Manufacturers' Association will coöperate in the work.

5. Palestine has been awarded the health honors of the year in the latest epidemiological report of the Health Committee of the League of Nations, as a result of notable reductions in disease, particularly malarial fever and trachoma, and increasing coöperation of municipalities in the control of and financial assistance to their local hospitals.

6. Because of the great need of children to play in order to remain healthy and develop properly, William A. Stecher, director of physical education in Philadelphia, is urging adequate school yards with trees and shelter sheds, additional all-year playgrounds, and the opening of all large school yards during the early evening hours. "Our records," he says, "show that pupils in schools that have adequate yard space run faster, jump farther, and throw farther than those in schools with inadequate yard space."

7. Laws that care for the blind in the State of Pennsylvania now include the child from the day of blindness, even though that be at birth, providing payment for the care and maintenance of these children of not more than $1.50 per day. The children are appointed, not committed, by the State Board of Education as pupils, for care, maintenance, and education in kindergartens—hospitals and homes combined—provided for them. The present budget provides for several more babies or young and backward children, and the International Sunshine Society requests that such children be reported to Mrs. John Alden, Blind Babies Home, Summit, N. J. This is the institution where Pennsylvania has been sending its blind babies for over ten years. The State pays $1.50 a day for each child so appointed, and it graduates when old enough to go to the Overbrook or Pittsburgh Schools or State Classes for the Blind, where a higher education may be obtained. Delay in sending the baby early often means its deterioration into a helpless and backward child.

8. Newly printed summaries of climatological data published by the Weather Bureau of the United States Department of Agriculture may be consulted in meteorological libraries, or separate sections will be supplied, while the edition lasts, to individuals and firms on request to the Department. This information is of

value to physicians in determining locations to recommend to patients needing a change of climate.

9. The dental societies of Newark and vicinity conducted a large mouth-hygiene campaign the last week in April, educational in character and for the laity entirely. Lectures, dental plays, and educational and manufacturers' exhibits occupied an entire floor in the Y. W. C. A. Other features were a contest among high-school students for a poster design, with a prize of $100; essay contests on mouth hygiene for school children; prizes for the prettiest teeth in Essex County, the best teeth among high-school boys and girls, and the best teeth in persons over sixty years of age. A trained publicity man was employed as publicity agent, and a vast number of dodgers and posters were distributed announcing the campaign. Mouth hygiene is an exceedingly important topic, of which the medical profession should have a far better knowledge. Its daily observance by all the people should be urged.

10. A floating hospital, to carry a physician and two nurses, will be put in service this year along 4,000 navigable miles of the Yukon River in the interior of Alaska, which will serve 5,000 isolated natives and whites. Throughout the district drained by the Yukon and its tributaries, there are only two doctors and three nurses. When an epidemic of any kind occurs, it takes days and sometimes weeks to get medical assistance to the stricken area. Most of the natives live along the rivers, so that a hospital boat will be able to reach practically all of them.

11. The first issue of the *American Review for the Blind* appeared in April. It will be distributed throughout the country every month free of charge to the sightless by the American Braille Press for War and Civilian Blind, Inc., 730 Fifth Avenue, New York.

OTHER ITEMS OF INTEREST

1. *Bulletin 1395* of the United States Department of Agriculture tells us that "assertions that bats will eradicate mosquitoes or materially reduce their numbers are shown by the Department to be without foundation. Even in proximity to bat colonies, mosquitoes have been observed to be very numerous. However, considerable success has attended the Department's experiments in the use of the airplane as a means of distributing poison dust over both treeless and wooded swampy areas for control of malaria mosquitoes. In the final tests more than 99 per cent of the larvæ in the area treated were destroyed with one application. Paris green was the larvicide used in all the experiments. The procedure used in carrying out the tests is described in *Department Circular 367*.

2. The Committee on Public Health Relations of the New York Academy of Medicine "views with great concern the health hazard which has been created by the late continual, and to a large degree preventable, discharge of dense smoke into the air. On account of the smoke permeating the city atmosphere, every one is forced to inhale soot and grit, and at certain levels, sulphur compounds, carbon monoxid, and noxious vapors. The pall of smoke hanging over the city is materially reducing the amount of sunlight, and is increasing humidity by interfering with evaporation. The interference with the beneficent action of the actinic rays of the sun by the all-pervading smoke is detrimental to health, particularly to that of children. The smoke with its impurities greatly aggravates respiratory affections, and causes inflammatory conditions of the eyes. It has encouraged and sometimes compelled the closing of windows, thereby interfering with proper ventilation." Undoubtedly what to do with products of combustion, especially in our large cities, is a public-health question of great importance, and it demands our best thought to the end that the "smoke nuisance" shall promptly be abolished.

3. A sweeping investigation of milk-handling and dairy plants in and near Wilmington, Delaware, has resulted in improved conditions and lower bacterial count, city health officials have announced. Inspections authorized by the Wilmington city council and the board of health showed flagrant disregard of health and sanitary measures in handling of the city's milk supply. One dairyman was found filling bottles by dipping them into a large can of milk with his hands. Other insanitary conditions were remedied as a result of the inspections. Now the milk supply is reported cleaner than ever before. In butter fat Wilmington's milk, it is asserted, is rarely under 3.25—the legal standard. Sediment has been lessened by the state inspections, and through educational programs sponsored by the State Board of Health.

MEDICOLEGAL NOTES

1. The subject of compulsory automobile insurance is likely to be reopened in the next Legislature. During 1924-25, thirty-eight state legislatures considered similar legislation, but only one state passed a financial-responsibility-of-driver law, and one adopted compulsory-insurance legislation. Each of the proposals would compel an automobile owner, in lieu of cash deposit, to carry insurance for certain specified amounts. The Chamber of Commerce of the United States has had a committee at work studying this moot question. Its report has just been published, and should be carefully read by all who are interested in such proposed legislation.

2. A case regarded as setting a precedent for the biochemical industry was decided recently by a London judge, who ruled that a bacillus isolated by Dr. Chaim Weitzmann before the World War, and now part of a patent process used in manufacturing acetone and butyl alcohol from corn starch, is the property of Dr. Weitzmann by right of being a fully patented possession, discovered by him after many years of tireless research. The suit was brought by the company employing Dr. Weitzmann against a rival company which was using the bacillus.

3. No person is a chattel to be held as a lien for an unpaid hospital bill, Magistrate Weil held recently in Harlem Court, New York, when Louis Deutsch complained that the hospital authorities had refused to discharge his wife from a ward because of his inability to pay her hospital bill.

4. The House of Delegates of the American Medical Association recently recommended that the Government purchase all the medicinal whisky in the country and dispense it through Federal depots on prescription if the United States Supreme Court holds unconstitutional the present laws governing liquor prescriptions.

5. Treasury decision No. 146 regarding private formulas has been revoked. Druggists may keep ready prepared, for quick dispensing, a quantity of any prescription frequently written for by a physician. A prescription or preparation sold over the counter must, in order to be within the exemption of Section 6, contain other active medicinal drugs in sufficient quantity to confer upon the preparation or prescription valuable medicinal qualities other than those possessed by the narcotic drug alone.

6. The Workmen's Compensation Board has affirmed the decision of the Referee in awarding compensation to Wilbur Muffler from the Standard Steel Car Com-

pany. After injury, the claimant was given immediate attention by the company surgeon, but infection set in, eventually spreading to the whole hand and part of the forearm. The wound did not respond to treatment, and the claimant consulted his own physician and later sought aid at a Williamsport hospital. This, the defendant claimed was an irregularity and prejudiced his claim to compensation. The Board, however, held that he was not bound to confine himself to the attentions of the company doctor, and on this basis affirmed the award of compensation.

7. In an action on a policy providing for full indemnity if the insured, from accidental injury, should be continuously and wholly disabled and prevented from the date of the accident from performing any and every kind of duty pertaining to his occupation, it appeared that the insured, a ship surveyor, accidentally fell and was struck upon the head and chin, causing a lesion in the left internal capsule of the brain, resulting in hemiplegia, accompanied by aphasia. He attempted to continue at work and apparently did so until he became paralyzed and was unable to get about at all. The New Jersey Supreme Court held, Booth vs. United States Fidelity & Guaranty Co., 130 Atl. 131, that the fact that the insured tried to work was not to be taken as conclusive evidence of his ability to do so, so as to deprive him of the right to full indemnity, and that he should not be penalized for honest efforts to keep going when nature demanded that he desist.—*Medical Journal and Record.*

8. Only six physicians are at present members of Congress—Royal S. Copeland in the Senate, and the following in the House: E. M. Irwin of Illinois, Ladislas Lazaro of Louisiana, J. J. Kindred of New York, W. T. Fitzgerald of Ohio, and J. W. Summers of Washington.

PUBLIC HEALTH

Do We Want More Smallpox?—Much attention was attracted by a bulletin published last June by the League of Nations, from which it appeared that the number of smallpox cases reported in the United States in 1924 was 51,429, or nearly double the figure for 1923. If the statistics published by the League are correct, this nation, in 1924, won the unenviable distinction of having more cases of this particular disease than any other country on the globe.

* * * * *

Dr. C. C. Pierce, writing in the October, 1925, issue of the *American Journal of Public Health,* depicts the situation even more strikingly. Dr. Pierce is senior surgeon of the United States Public Health Service in Chicago. What he has to say is singularly impressive, because it has so little concern with medical theories and deals so largely in facts which can be verified by any one who will take the trouble to go to the nearest library and check the official statistics he employs. The independent investigator will find, for example, that the report of the surgeon general, United States Public Health Service, for 1924, stated that smallpox is the most widely distributed plague in the world and that approximately one fifth of all the cases of it reported during 1923-24 occurred in the United States.

According to Dr. Pierce, and overwhelming evidence excludes all doubt as to the correctness of his statement, "A study of detailed data shows that the number of cases of smallpox that occur each year has a very definite relationship to the number of unvaccinated persons in the community. States that have good vaccination laws have few cases of smallpox during a period of years. Massachusetts, with good vaccination laws, and Minnesota, with no vaccination law, during the years 1913 to 1923 are good illustrations of this. During these eleven years Massachusetts had 457 cases and Minnesota 53,152 cases of smallpox." The population of the Bay State is about fifty per cent greater than that of the Western commonwealth.

However the figures which express the relationship are compared, the open-minded investigator is forced to the same conclusion. Consider what happened in California. In 1919, according to the bulletin of the League of Nations, there were 2,002 cases of smallpox reported. Vaccination laws were repealed, and in 1924 the number of cases rose to 9,425. During the years 1917 to 1920, inclusive, similar causes produced similar effects in the state of Washington in even greater proportion. And yet there are persons who would say that these experiences are mere coincidences!

Smallpox is always a live issue. During the past few years it has been obtruding itself on public attention in its own unpleasant deadly way. We are now squarely faced by the question of what we are going to do about it, if anything. If we are willing to see this loathsome and deadly disease thrive and flourish, we have but to ignore it and be patient. If we want more of it, there is not the smallest doubt that we shall have it. Physicians and health officers cannot stamp it out. They do not make the laws. It is all they can do to enforce them. Legislatures take their cues from their constituencies and do their bidding. The voters are the court of last resort. They it is, and not the doctors, who will have the final say in the matter.

Unfortunately, the principle of local option cannot be successfully applied to contagious diseases. If the death-bearing germs would respect state boundaries and remain where legislation favors them, the problem would be simplified. We know that they do nothing of the sort, but migrate at will and carry the menace of contagion with them. The people of every state are to some extent at the mercy of the commonwealths where vaccination control is lax or nonexistent.

Diphtheria Drive Planned.—Inauguration of a new drive against diphtheria which will involve many counties and the immunization of thousands of school children was announced recently by the Secretary of Health. Incidentally, the Department's previous efforts in diphtheria immunization have been rewarded by the lowest diphtheria death rate ever experienced by this State—representing a 50 per cent reduction since this work was begun by the Department in 1921.

Health Education for Prospective Teachers.—The public-school teacher of the future in New York State will recognize that her responsibility goes far beyond the three R's; she will be more interested in the health of her pupils than the teacher of the past; and she will know how to safeguard the health of her children, particularly their eyesight, to a greater degree than before. This was the substance of a report made by Dr. Emily A. Pratt, eye and ear specialist of the Medical Inspection Bureau, New York State Department of Education, in a conference with the officers of the National Committee for the Prevention of Blindness.

Under the joint auspices of this Committee and the Department of Education, Dr. Pratt gave a course of lectures in each of the normal schools throughout the State, as the result of which it is expected that every prospective teacher at present enrolled in a New York State normal school will understand the structure of

the eye, scientific measures of testing vision, and the most progressive methods of conserving the sight of children. The lectures to normal-school pupils were supplemented by lectures and demonstrations in public schools, in talks to Parent-Teacher Associations, and in conferences with school superintendents throughout New York.

Control of Measles Epidemics.—Several sections of the State have recently suffered from measles epidemics. In view of the situation, which was most embarrassing in several communities because of the severity of the onslaughts, the Secretary of Health issued instructions relative to control. He said: "The State Department of Health does not approve the closing of schools to control outbreaks of measles or other contagious diseases. When epidemics occur, people frequently become frightened and grasp at any plan no matter how obsolete. Closing schools tends to scatter the infection, inasmuch as it creates an opportunity for the infected children to spread the disease all over the community. During an outbreak of contagious disease, schools should be kept open, and daily inspections should be made of all children in them in search for other children showing symptoms of the disease in question. When a case is discovered in a classroom, the daily examination should be maintained for a period of at least two weeks, to permit the discovery of secondary cases developing from the first exposure. Children who are coughing, sneezing, have redness of the eyes, or any rash or fever, should be kept home from school, and the doctor summoned at once. They may be developing measles."

Health Department Exhibit at the Sesqui-Centennial.—The plans for the State Department of Health's exhibit at the Sesqui-Centennial in Philadelphia have been completed. This exhibit will visualize the progress in public-health work made in Pennsylvania during the last century. It will be located in the left wing of the Pennsylvania Building, and will occupy approximately 1,000 square feet of floor space.

HOSPITAL ACTIVITIES

Hospital Survey.—The issue of the *Journal of the American Medical Association* of April 3, 1926, is designated as the "Hospital Number," covering the year 1925. It should be carefully read by all physicians interested in hospital administration, and the medical profession should suggest to hospital executives the advisability of reading it.

The following are matters of interest culled from this report.

In Pennsylvania, for a population of 9,317,647 there are 416 hospitals, with a total of 64,844 beds; average number of beds used 51,947 (about 75 per cent), number of bassinets 3,100, making a total capacity of 67,984 beds. This is exceeded by only one State, New York, with a total capacity of 120,092 beds. Of the 67 counties in Pennsylvania, 20.9 per cent have no hospitals. This same percentage obtained for 1920, showing that during the past five years, no hospital construction has taken place in these counties.

In this State 311 of the hospitals have a staff, totaling 5,947 physicians, and 114 hospitals have 652 interns. In 139 of the hospitals, the superintendent is a physician; in 111, a registered nurse is superintendent. The statistical study of the hospitals of the entire country shows that during the past two or three years, the number of physicians employed as superintendents has not increased. On the other hand, the number of registered nurses acting as superintendents has increased about 8 per cent.

The demand for interns is greater than previously, 203 hospitals in this country reporting that they could use 308 additional interns, as compared with a shortage of about 1,000 interns three years ago. In Pennsylvania, 64 hospitals are approved for internship. The service is eighteen months in 1, two years in 8, and one year in 55. In 29 of the hospitals in this State, women interns are eligible for appointment; and in 2, women only are admitted. In the 2 hospitals for colored patients, both sexes are admitted as interns.

Among the 6,896 hospitals in the survey, 2,046 have outpatient departments, 3,871 roentgen-ray departments, 3,939 clinical laboratories, and 2,247 have training schools for nurses.

It is of interest to note the number of hospitals that pay the interns a monthly salary or a bonus. Of the 64 hospitals approved for internship in this State, 24 pay a monthly salary varying from $8.33 to $50, the majority paying $25.

The survey includes a report on clinical-laboratory service in the United States. This report is a preliminary step, based upon the investigations made by a committee appointed by the president of the American Medical Association at the request of the House of Delegates in 1923. The term "clinical laboratory" is defined as "an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment, and methods for the purpose of ascertaining the presence, progress, and source of disease."

It was the unanimous judgment of the committee that (1) it should be illegal for any person not licensed by law so to do, to assume the responsibility of making the diagnosis or deciding on the progress or source of disease on the basis of any results of a chemical, pathologic, serologic, bacteriologic, radiologic, or microscopic observation, or other laboratory examinations undertaken; and where laws do not now restrict diagnosis or the clinical interpretation of laboratory examinations to licensed classes of medical practitioners, laws should be enacted to effect that end. (2) Any law providing for the licensing of professional workers in laboratories devoted to ascertaining the presence, progress, or source of disease, should provide for the examination of members of each profession by competent authorities belonging to the same profession. (3) So long as an organization or individual engaged in examinations to ascertain the presence, source, or progress of disease refrains from all diagnostic and prognostic interpretation of the results of such laboratory tests as provided for in paragraph 1, any effort to force such organization or individual to place itself under the direction of a representative of any other profession is to be deprecated. (4) The American Chemical Society and the American Medical Association of Pathologists and Bacteriologists should coöperate to establish the principles enumerated in the foregoing resolution whenever legislation in this field may be proposed, and the coöperation of other national bodies should be solicited. (5) Clinical laboratories should be standardized in accordance with the principles laid down in the preceding paragraphs, and legislation should be enacted to insure competent personnel and suitable equipment.

This survey is confined for the present to the laboratories that make a business of doing clinical work for physicians, omitting the hospital laboratories. There were received from the 1,405 such laboratories on the

list 1,080 replies. There were 12 from this State. In 5 the director has an M.D.; in 4, a degree other than M.D.; the remaining 3 having no degree. As to the personnel of the 12 laboratories, the assistants consisted of 2 physicians, and 14 lay members, 12 in the grouping unlicensed. One laboratory gives treatment, intravenous and vaccine; the remaining 11 none.

The essentials of an approved clinical laboratory are outlined. The Council makes no attempt to interfere with any clinical laboratory or to prevent it from conducting its affairs as it deems best. However, if the clinical laboratory desires to obtain the Council's endorsement as an approved institution, it should be willing to comply with the principles designated by the Council as essential in clinical laboratories which are acceptably equipped and maintained. Thus, a supervision over clinical laboratories in the United States has been established which, it is believed, will bring results no less satisfactory than the supervision established over medical schools and hospitals.

"The history of hospitals is so arranged that 294 are eliminated which, because of grossly unethical reasons, such as criminal practices, admission to their staffs of members who are seriously unqualified, either morally or professionally, flagrant methods of advertising, or for other valid reasons, are deemed unworthy of being included in any published list of reputable hospitals. The separation of such institutions from the Council's published lists marks the development of an aggressive campaign to establish safeguards against irresponsible or malicious institutions of this type which are an actual menace to the public. For these reasons, therefore, they are excluded from the lists of institutions held out as worthy of receiving the public's patronage."

Food Waste.—In a survey of food waste conducted by Miss Rena S. Eckman, of the department of dietetics in the University of Michigan, "when waste is excessive, explanation must be sought for under one or more of the following: Too large a plate serving; popularity of the food; unpopular combinations of food; bad cooking of food; poor methods of handling food; too frequent servings of same dish; and general unattractiveness of food."—*Hospital Management.*

Sick Children Can't Sidestep School Now.—In Chicago the school is brought to the Cook County Hospital, where a room with desks and blackboards has been set aside for the work. If the children are too sick, the teacher will hear the lessons right at the bedside.

Serving Meals to Hospital Employees.—One of the problems of the hospital administration is the question of including meals in the salary of employees. There is no reason at all why this practice, which is an excess duty to the hospital, should continue. Every employee should be paid a commensurate salary, and be required to take his meals outside of the hospital. Some institutions may be so located that the distance from the hospital to the homes of the employees or nearest restaurant would greatly interfere with the time permitted for this purpose. As a rule, in the industrial world the employee has breakfast before leaving home, carries lunch or obtains it near by where employed, and returns home for dinner. There is a great waste of food where employees are permitted to have all they want, and the cost is very great when expensive foods are served. The University of Michigan Hospital at Ann Arbor, has established a cafeteria to take care of the problem. In addition to serving employees, friends of patients, hospital visitors, staff doctors, etc., frequently eat at the hospital. Meals average about 71c per day: breakfast 15c, dinner 32c, and supper 24c. The administration is somewhat pleased at the results obtained.

Building Operations.—A portion of the north wing of the Pennsylvania Hospital, Philadelphia, is being torn down to make room for a new building to house the outpatient department, which it is hoped will be completed by the end of 1926.

The Bryn Mawr Hospital is preparing plans for the reconstruction of the entire hospital and its gradual expansion to 500 beds.

The Allegheny General Hospital, Pittsburgh, is preparing plans for a new hospital of 500 beds, one-half of which will be devoted to wards.

Herbert Hoover, Secretary of Commerce, on April 15th turned the first spade of earth on the site of the new hospital to be erected at the Sesqui-Centennial grounds, Philadelphia. City officials and members of the Exposition Committee witnessed the ceremony. The hospital will be designed to take care of first-aid cases and emergencies of all kinds when thousands of people throng the big exposition grounds. There will be physicians and nurses in charge at all times and ambulance service will be maintained.

Gifts and Bequests.—The gift of Mrs. Sabin W. Colton, Jr., of Bryn Mawr, the Cornelia Sellers Occupational Therapy Shop has been opened as an adjunct to the University of Pennsylvania Hospital. The shop is housed in a small brick cottage on the hospital grounds, and is complete in every detail. Painting, weaving, reed and raffia work, sewing, rug making, and scroll-saw work, are among the various forms of handiwork that may be performed in the shop. The patients will have instruction by six professional and volunteer workers.

The Brookville Hospital has acquired a new home for nurses at half the market price, because the vendors of the property gave the hospital 50 per cent of the cost. The property is the old homestead of the Dickey family, adjoining the hospital. It consists of fourteen acres of ground and a ten-room house of the Victorian period, convertible at little cost into quarters for nurses and student nurses. The owners were four daughters of the late William Dickey—Mrs. Ada Dickey Means and Mrs. Frank Brown, of Brookville, and Mrs. L. Benton Long and Mrs. Wilson Maxwell, of Los Angeles, Calif. The price asked was $22,000, the sellers giving $11,000 of it. The State authorities last year ordered the hospital to provide an adequate home for nurses or abolish its training school. Then the owners of the Dickey homestead made their offer.

Bequests of $15,000 and $10,000 to the Philadelphia Home for Incurables and the Presbyterian Hospital are contained in the will of Jennie Forrest.

Nurses' Pensions.—According to the recent annual report of The Ladies Guild of Beth Israel Hospital, Newark, N. J., a fund has been established with which to provide an allowance for nurses who have served in the hospital at least 20 years.

Hospital-Association Meetings.—The Hospital Association of the State of New York announces its annual meeting at the Hotel St. George, Brooklyn, May 27 and 28.

The annual convention of the Catholic Hospital Association will be held at Loyola University, Chicago,

Ill., June 14 to 17. This will allow those present to attend the International Eucharistic Congress, which will begin in Chicago June 20. The International Catholic Guild of Nurses will hold its meeting in conjunction with the Catholic Association.

Large Proportion of Nonresident Patients.—According to a survey of New York City hospitals conducted by Dr. Eleanore A. Conover, director of the Hospital Information Bureau of the United Hospital Fund, "A study of the records of seven representative hospitals in Manhattan showed that 12.4 per cent of all patients treated in 1924 lived outside New York City." Including hospitals in Brooklyn and Queens, Richmond and the Bronx, there were 17,494 out-of-town patients in private hospitals in 1924. Allowing an average of twenty-four patients per bed per year, these patients used 729 beds.

Hospital Association of Pennsylvania.—The fifth annual meeting of the association was held in Pittsburgh April 13 to 15, 1926. There was a banner attendance. Prominent public officials and hospital executives from all sections of the State were present. The association was organized December, 1921, at Harrisburg.

The members were welcomed by Mayor Charlie H. Kline. The response to the Mayor was made by Dr. Joseph C. Doane, Medical Director of the Philadelphia General Hospital.

The president's address, "A Discussion of Some of the Functions and Policies of the Association," was delivered by Dr. G. Walter Zulauf of Pittsburgh.

At the public meeting Dr. Wilmer Krusen, Director of Public Health of Philadelphia, delivered an address on "Public Health and the Hospital." The speaker was introduced by Dr. C. Carey Vaux, Director of Public Health of Pittsburgh.

At the session devoted to the discussion of Workmen's Compensation, Mr. T. Henry Walnut of Philadelphia, Chairman of the Workmen's Compensation Board, delivered an address on "The Workmen's Compensation Board in Relation to Industrial Accidents." The Legislative Committee of the Association was instructed to prepare a bill which would embody the following: (1) To abolish the present time limit of 30 days for compensation. That no limit be established, allowing each case to be a law unto itself. For instance, a patient may be in the hospital 4 to 6 weeks with a broken leg, whereas a patient with a fracture of the vertebræ may be hospitalized for an indefinite number of months. The superintendent of one of the hospitals referred to an instance involving the latter type of case, which netted a loss of $1,465 to the hospital. (2) That a hospital be reimbursed for the charges that instituiton makes for its regular public-ward beds, whether it be three dollars or more per diem, instead of the flat rate of three dollars per day (for 30 days), as now is operative in this State. (3) In personal-injury cases admitted to a hospital, discharged, and subsequently recovering damages in a civil suit or settlement, that the hospital shall be reimbursed for services rendered. The committee was further instructed to endeavor to have abolished the collateral inheritance tax affecting hospitals, whereby 10 per cent is deducted by the State.

There were round-table conferences held on hospital administration and on nurses' problems. A very important discussion followed the paper on "The Hospital Laboratory," by Prof. Samuel R. Haythorn of the University of Pittsburgh.

Dr. Frederick Brush, medical director of the Burke Foundation for Convalescents at White Plains, N. Y., delivered an address on "The Essentials for Convalescent and Substandard Health Care."

There was a large attendance at the annual dinner, and the commercial-exhibit space was entirely taken.

The following officers were elected for the ensuing year: president, Howard E. Bishop, Sayre; president-elect, Dr. Henry K. Mohler, Jefferson Hospital, Philadelphia; vice-presidents, Miss Annet Grant, Moses Taylor Hospital, Scranton, and Sister Mary Antonia, St. Joseph's Hospital, Reading; treasurer, Elmer E. Matthews, Wilkes-Barre General Hospital; executive secretary, John M. Smith, Hahnemann Hospital, Philadelphia; trustees, Miss Susan C. Francis, Children's Hospital, Philadelphia; Dr. Joseph C. Doane, Philadelphia General Hospital; Miss Jessie J. Turnbull, Elizabeth Steel Magee Hospital, Pittsburgh; Dr. E. E. Shifferstein, Coaldale; Dr. G. Walter Zulauf, Pittsburgh, and Dr. Edwin O. Lewis, Easton Hospital.

INDUSTRIAL MEDICINE

The American Association of Industrial Physicians and Surgeons will be held in Philadelphia, May 24 and 26, with headquarters at the Hotel Pennsylvania, Thirty-ninth and Chestnut Streets. The program, in large part, is by members of the teaching staff of the University of Pennsylvania Medical School, who will conduct clinics and lectures at the University Hospital. The various departments of the Medical School have kindly consented to give clinics, demonstrations, and talks in line with the work. Along with these, the best possible speakers have been secured to make a worth-while meeting, which one cannot afford to miss. Physicians in Pennsylvania who are engaged in the practice of industrial medicine should endeavor to attend these meetings, and should affiliate themselves with this organization if they are not already members.

A Future Development in Industrial Hygiene.—Industrial hygiene has developed gradually. Its present more noticeable activities have definitely outlined limits. Most of the tendency has been away from real medicine and into special technical fields. Few have realized that an opening has appeared for the study of the newer or preventive medicine. This implies a knowledge of incipient disease—and where is there a better opportunity to study incipient disease than in industry?

Heretofore, personal hygiene has been approached from the group standpoint, with no very definite attempt to prevent actual disease and lowered efficiency in the individual. Contrary to the general opinion, this can best be done by starting at the top with the executive, the key man in any industry, and making it an individual and personal matter. After all, these men are most important, not only to the industry, but to their employees. In the first place, if they can be convinced of the importance of personal hygiene through the route of physical examinations and careful follow-up, they are more certain to advocate this for their employees. Secondly, it is among these men that there occur most often the types of ailments about which we know relatively little. Thirdly, these men must be fit as well as organically sound.

Too often we have been unable to prevent the executive, the man with large responsibilities, from breaking under strain and perhaps giving up his work temporarily or permanently. This usually dislocates any

organization to a certain extent, and from the industrial standpoint loses for the community, usually, a valuable member who should be saved. Of the incipient stages of many diseases, such as arteriosclerosis, heart disease, and kidney disease, we understand very little. In fact, the general subject of incipient disease is very much in its infancy. Oftentimes, there is no evidence of organic disturbance in the man who very shortly may become totally incapacitated. He may be an humble employee, but more often he is an executive or a key man with many responsibilities.

Physical examinations have been introduced in industry, and they provide an excellent opportunity for approaching this subject of personal hygiene. We have seen, both in industry and in schools and colleges, that while physical examinations will show us organic defects, they are oftentimes of little value in detecting functional disturbances which careful attention to personal hygiene will go far toward obviating. To be really effective, these examinations must be human and not merely statistical. There must be in each examination a more professional spirit of inquiry as to what ails a man, even if he is organically sound. Fitness as well as soundness should be the aim of the physician.

Only careful investigation and accurate diagnosis can differentiate between the functional disturbances and the symptoms of organic disease. Functional disturbances have a very definite effect on individual efficiency, but just how much they can be identified with organic disease we do not know. Recognition of them, and the application of personal hygiene, has often made possible the prevention of a good deal of incapacitating illness. This is very definitely preventive medicine, and emphasizes the need of paying attention to habits of living and working. What a man eats and drinks, how much he sleeps, what exercise he takes, what work he does and when, are often of as much importance as a particular heart murmur or a slightly raised blood pressure.

From the physical examinations, which are an integral part of industrial hygiene, the medical profession has, then, an unusual opportunity for studying incipient diseases. It has the opportunity of practicing real preventive medicine through groups and on individuals over a period of time sufficient to check up results. It should be possible by the more intensive practice of personal hygiene to avoid a good many of the rather vague ailments and develop actual prevention.

An opportunity is presented to the medical profession by industry which should indicate that, after all, industrial hygiene and general medicine are more closely related than most of us realize. Certainly, the physician practicing curative medicine and desiring to benefit the community as much as possible, can find no better facilities for doing real preventive medical work in industry. Industrial hygiene presents infinite possibilities for future development in this direction.—From D. C. PARMENTER, *The American Journal of Public Health,* December, 1925.

Functional Nervous Disorders.—The author gives a popular discussion of this question, and considers its relation to industry and merchandizing, and particularly to the salesman and craftsman. There are recognized the disability types and the maladjustment types. Typical case histories are given. In a group of store workers numbering about 4,000, during a six-months' period the diagnosis of functional nervous disorder was made 506 times, these disorders being fourth in order of frequency among the complaints treated in the store health department. During the same period, 1,546 days were lost from these disorders by 123 individuals. The author does not feel that ignoring the facts is a remedy. Fear is not a remedy. In attacking the problem in practical ways, close attention must be given to the individual, then attention to the environment. Many a neurotic salesman or saleswoman could find more appropriate and satisfying occupation in a machine shop or on a farm. In the end, "compromise" is more or less the true solution for both employer and employe.—From H. W. STEVENS, *The Commonwealth,* April, May, June, 1925.

The New York State Department of Labor, in *Special Bulletin 139,* gives an analysis of 300 accidents in woodworking factories, with suggestions as to safe practice and suitable machine guards. Such a detailed study of industrial accidents, their cause and prevention, is most valuable. The detailed discussion of guards with illustrations is most timely, as the average factory worker is always ready to dispute with the inspector the practicability of a safety guard.

Accident Records and How to Keep Them.—In keeping accident records, it is absolutely essential to have all facts connected with each accident, from the causes leading up to it until the case may be considered closed. In the event of a serious accident, it is highly advisable to secure the facts from a number of sources, as the differing points of view may prove exceedingly valuable. Photographs of the scene of the accident and x-rays of the injured part are also recommended. Notwithstanding the fact that the majority of accidents occurring in a plant may be of a minor or nondisabling character, such as cuts which require nothing more than a bandaging, the medical department should keep a daily record of all cases reported to it, including calls for redressings. This record should embrace the employee's name, check, part injured, notation as to whether or not employee was instructed to continue at work or to call again, etc.

As nearly all the states now have compensation laws, and require fairly comprehensive reports of accidents involving disability over a given short period, such accident reports may be taken as the accident record, being amplified, if desired, for one's own records, as already indicated.—From C. B. AUEL, *Industrial and Engineering Chemistry,* December, 1925.

Occupation and Tuberculosis.—This article considers particularly the solution of the case of the tuberculous person who must work, and the surroundings to which he must go upon his return from sanatorium conditions. The experience of the past twenty years with regard to the employment of tuberculosis patients is summarized: (1) Patients were first advised to find occupation in the open air, many times to the detriment of the patient's health, and the fact that there are occupations which can be practiced under workshop conditions with happy results was not recognized; (2) the idea of learning a new occupation has usually proved unsuitable except in the case of certain limited ones; (3) employers were not willing to take on tuberculous workmen; (4) most patients have proved unable to manage a business, and must work for others; and (5) the patient is expected to put in a full day's work at a normal working rate without reference to his physical fitness, which is a rock upon which our post-sanatorium patients split.

It seems clear that the problem can be dealt with only by means of *ad-hoc* schemes for employment under sheltered conditions. It is apparently less pressing in smaller towns and country districts. The "Altro"

workshop experiment of the Jewish Tuberculosis Committee of New York has proved its usefulness, and has finally erected its own specially designed workshop where each patient works under medical rather than industrial conditions. In England, Mr. G. W. Allen organized the "factory in the fields" in Leeds about five years ago. Firewood-splitting machines, a window-cleaning brigade, boot repairing, brush making, and a variety of similar industries were started. In 1923 the Central Fund established the "Spero-Leather Workers." Wages are paid at rates varying with the experience of the worker. The general conclusions from all of these schemes are given. The immediate need appears to be for the carrying out of a number of experimental schemes without much likelihood that any one may be run without some considerable financial loss.—From J. E. CHAPMAN, *Journal of the Royal Sanitary Institute*, September, 1925.

THE HEART

DIAGNOSTIC FINDINGS IN THE MORE COMMON CLINICAL TYPES OF HEART DISEASE*

The term "organic heart disease" refers to actual pathologic change occurring in the structure of either the valves or the muscle of the heart. While it is inconceivable that one particular type of heart structure can be affected without adjacent structures being involved to some degree, nevertheless a valve lesion may overshadow any coincident muscle involvement. Likewise, muscle involvement may dominate the picture of cardiac pathology.

CARDIAC APHORISMS

Before enumerating the findings which differentiate the common clinical types of heart disease, a few truths, succinctly expressed, may clarify our studies.

1. Murmurs are of endocardial significance; arhythmias are of heart-muscle import.
2. The muscle is of more importance than the murmur; the rhythm is of more importance than the rate.
3. A murmur may occasionally be due to stretching of a valve ring by an enlarged heart which draws the valve leaflets temporarily apart.
4. A murmur, to be significant of structural valve disease, must be accompanied by other confirmatory signs.
5. Actual heart disease is rarely primary. It is usually secondary to infective processes elsewhere in the body.

FINDINGS IN VALVULAR HEART DISEASE (MITRAL STENOSIS)

1. Apical presystolic thrill.
2. Apical presystolic murmur, sharply defined.
3. Snappy second sound at mitral area.
4. Heart enlarged to right; also perhaps to left.
5. Thready, rapid pulse.

FINDINGS IN VALVULAR HEART DISEASE (AORTIC INSUFFICIENCY)

1. Basal diastolic murmur.
2. Murmur transmitted over precordium.
3. Heart enlarged to left (cor bovinum).
4. Sharp, sustained pulse impact, artery collapsing between beats.
5. Low diastolic pressure, persisting as indicator drops to zero.
6. Pistol-shot sound in femoral artery (normally void of sound).
7. Femoral systolic pressure markedly higher than brachial.

FINDINGS IN HEART-MUSCLE DISEASE

1. History of acute rheumatic fever, St. Vitus's dance, repeated attacks of tonsillitis, diphtheria, scarlet-fever, long-continued low-grade infections.

2. Symptoms of heart failure ("decompensation"); really, symptoms or signs of impaired function, varying with that particular anatomical system which is deprived by the failing heart of sufficient blood with which to function properly, as the central nervous, respiratory, digestive, muscular, or other systems.

3. Inability to perform accustomed tasks without marked distress.

4. The pulse is usually disturbed, but not necessarily so. When pulse abnormalities are present, the more serious types are the totally irregular pulse (auricular fibrillation), or a bradycardia (likely a heart block).

5. The best available evidence of actual structural heart-muscle disease is afforded by electrocardiographic studies. When the written record shows that the heart's action currents are delayed in their passage through the heart muscle, the evidence of myocarditis is incontrovertible.

6. Many cases of alleged "chronic myocarditis" are actually nothing else than heart-muscle inefficiency—*not* heart-muscle inflammation. Such hearts can frequently be made surprisingly efficient by locating and removing focal infections, blood impoverishments, chronic constitutional diseases, etc. Persons who have actual inflammation of the heart muscle grow progressively worse; those who have simply exhausted their heart-muscle reserve drag along indefinitely with little change from one month to another in their symptoms, signs, or physical capacity.

7. Leukocytosis is not so characteristic of heart-muscle inflammation, *per se*, as it is of the chronic infection to which the heart involvement is so often secondary.

JOHN D. McLEAN, M.D., *Secretary*,
PENNSYLVANIA HEART ASSOCIATION.

*Epitome prepared by S. Calvin Smith, M.D., Philadelphia, Pa.

POSTGRADUATE COURSE ON THE HEART

To be Given at Pittsburgh, June 1 to 5, 1926

The Heart Commission of the Allegheny County Medical Society, coöperating with the School of Medicine, University of Pittsburgh, is offering the following course without charge to members of the Medical Society of the State of Pennsylvania. Register before May 26th with Dr. Adolphus Koenig, Jr., 121 University Place, Pittsburgh, Pa., Secretary of the Heart Commission, who will furnish additional information about the course upon request.

MORNING POSTGRADUATE COURSE

School of Medicine, University of Pittsburgh
and
Heart Commission, Allegheny County Medical Society

Tuesday, June 1 (Medical School): 9-10 Registration; 10-11 Anatomy of the Heart (Hooker); 11-12 Physiology of the Circulation (Guthrie).

Wednesday, June 2 (St. Francis Hospital): 9-10 Public-Health Aspects of Cardiovascular Disease (Heard); 10-11 Modern Versus Obsolete Views of Heart Disease (D'zmura); 11-12 Etiology of Heart Disease (Schleiter).

Thursday, June 3 (Mercy Hospital): 9-10 The Element of Fear in Fancied and True Heart Disease (Wright); 10-11 Mechanism of the Heart Beat. The Arhythmias (Wedd); 11-12 The Heart in Hyperthyroidism (Zur Horst).

Friday, June 4 (Mercy Hospital): 9-10 The Heart in Childhood (Frost); 10-11 Valvular Heart Disease (Johnston); 11-12 Arteriosclerosis. Aneurysm (Maclachlan).

Saturday, June 5 (St. Francis Hospital): 9-10 Heart Disease in Industry (Colwell); 10-11 The Heart in the Acute Infections (Simonton); 11-12 The Use of Digitalis (Cohoe).

AFTERNOON COURSE

Heart Commission, Allegheny County Medical Society

Tuesday, June 1 (Medical School), 2:00–4:30—Pathology of Heart Disease (Haythorn, Permar, Bruecken, Cohen).

Wednesday, June 2, 1:30–4:30—Clinical Methods of Examination. Cardiac Dispensaries and Wards.

Thursday, June 3, 1:30–4:30—Laboratory Methods of Examination—Polygraph, Electrocardiograph, Basal Metabolism, Fluoroscopy, etc.

Friday, June 4, 1:30–4:30—Ward Walks, Dispensary Assignments, Laboratories.

Saturday, June 5, 1:30–4:30—Ward Walks, Dispensary Assignments, Laboratories.

Wednesday, Thursday, Friday, and Saturday afternoon work will be in sections. Assignment to hospital will be made after registration.

Morning work in the Postgraduate Course given by the School of Medicine and morning work in the course under the auspices of the Heart Commission are the same. Clinical material will be used to illustrate the lectures.

Afternoon work under the auspices of the Heart Commission is for physicians registering for heart work only, but the afternoon course will be repeated for physicians taking the postgraduate course of the School of Medicine if the demand is sufficient.

James D. Heard, *Chairman*,
Allegheny County Heart Commission.

PITTSBURGH ACADEMY OF MEDICINE

ABSTRACTS

BY R. M. ENTWISLE, M.D., Secretary

Some Observations on the Use of Artificial Pneumothorax.—The greatest usefulness of artificial pneumothorax, so far as the aggregate number of patients is concerned, is in pulmonary tuberculosis. It has also proved useful in lung abscess and bronchiectasis, and as an emergency measure in controlling severe pulmonary hemorrhage it is of unquestioned value.

By injecting air between the visceral and parietal pleuræ it is comparatively simple to compress the elastic lung tissue, and, with the air acting as a splint, the motion of the lung is reduced to a minimum, and diseased surfaces are held in close apposition.

The ideal case for collapse is one in which the disease is progressive, and confined to one lung only, and in which the ordinary methods of treatment have completely or partially failed. The presence of disease in the opposite lung is not necessarily a contraindication to collapse. It must not, however, be gross or extensive, though it may be active, and cases which have the upper third or less of the so-called good lung involved should not be denied a trial of pneumothorax. Physical examination alone must not be relied upon to determine this, and in no case should it be attempted, except as an emergency, without previous careful study by x-ray.

Pulmonary hemorrhage, when severe or protracted, should be emphasized as an indication for a pneumothorax. It may be used as an emergency treatment when hemoptysis is so profuse and continuous that the patient's life is threatened. Such cases are seldom ideal, but if there is reasonable certainty from which lung the blood is coming, it may be collapsed whatever the condition of the opposite lung. This should be done in otherwise unsuitable cases only when life is actually threatened by the hemorrhages. The protracted cases where the hemoptysis is periodic and prevents the patient from resuming the normal conditions of life are eminently suitable for collapse if the disease is sufficiently one-sided.

The contraindications to artificial pneumothorax are: favorable incipient tuberculosis, extensive bilateral disease, acute miliary tuberculosis, cardiorenal-vascular disease with decompensation, and marked asthmatic and emphysematous conditions. Tuberculous disease in other organs is not a contraindication. Adhesions may entirely prevent the introduction of air or permit only a partial collapse, but frequently a sufficient amount of air may be introduced to bring about an effective pneumothorax even in the presence of some interference.

The lung should be kept collapsed for as long a time as possible, because when once released it is almost impossible to separate the pleural surfaces again. A favorable result can in this way be turned into disaster if the lung is permitted to reëxpand before healing is complete. A definite length of time necessary to continue

treatment cannot be stated, but in our experience three years is a fair average.—T. R. KENDRICK, M.D. (by invitation).

Melanoma; With a Report of Two Cases.—The first patient, a woman aged 33, stated that about two years previously she had noticed an increase in the size of a black mole on the left wrist. In May, 1924, it was removed under local anesthesia and with a knife dissection, in a doctor's office. In July, 1924, she noticed a recurrence of a black area on the wrist, and a lump in the left axilla. She was sent to the hospital in October, 1924, and at this time there was a dark pigmented area extending along the scar at the wrist for about one inch, and several nodules in the axilla. With a cautery knife a large area of tissue was excised from the wrist, and a complete dissection of the axilla was done, excising the lymphatics. She was given considerable x-ray therapy over the entire arm and axilla. In January, 1925, she moved away from the city without leaving her address. Nothing more was heard concerning her until in April, 1925, when a report was received that she had died at Washington, Pa., and that an autopsy had shown metastasis to the liver of a large melanotic growth without any local recurrence in the arm or axilla.

The second patient was a woman of 44, admitted to the hospital October 29, 1924, with the history that several years previously she had been advised by her family physician to have what he called an "ugly-looking mole" removed from her back over the scapula. One year previously she had been given the same advice by him because he believed the mole was increasing in size. At the time of admission to the hospital, there was an elevated black mole about one inch in diameter, with some active ulceration, and an overgrowth with several large nodules in the right axilla. With a cautery knife a wide excision of the mole was made, opening a wide area to the axilla, a part of the axillary excision being done with the cautery and part with the knife. A very radical cleaning out of the axilla was performed. The wound was a long time in healing because of the cauterization, and dressings were done until January, 1925. She was carefully observed for recurrence until May, 1925, when she began to develop small, hard nodules underneath the skin all over the body, particularly underneath the scalp. About this time there also developed a local recurrence in the scar tissue of the back, and she died very suddenly in August, 1925. There had been a gradual loss of weight and marked anemia.

The progress of a melanoma is very variable. In the greater number of cases the pigmented mole is a starting point of the disease. This mole may have been present for years on some portion of the body subjected to chronic irritation and trauma, without undergoing any malignant change. Fortunately, the greater number of these moles persist throughout life without showing any tendency to malignancy, but in a certain definite number, following chronic irritation or trauma, the base of the mole becomes indurated or slightly elevated, ulceration may take place and increase in size, and within a short time the nearest glands become swollen and increase in size, often very rapidly. Occasionally, small nodules occur all over the body. Metastasis may occur when the attention of the patient has not even been called to the changes taking place in the original mole. Metastases occur both by spreading along the lymphatics and by the involvement of neighboring veins, with the formation of small thrombi, lodging most frequently in the lungs and liver. Where the original nodes are involved, the spread of the disease may be relatively slow. Where it occurs through the blood vessels, the dissemination is usually more rapid, and a fatal termination occurs early. The metastatic tumor may present a marked difference in structure, appearing as an alveolar or diffuse carcinoma, a large spindle-cell sarcoma, or a lymphosarcoma. The pigmentation of the metastatic tumor is usually characteristic, although it may be absent. As the process advances, pigment streaks may lead from the cutaneous tumors, forming pigment in the serous membranes, deposits of pigment in the lymph nodes, and the presence of melanuria—brown or almost black urine.—JOHN H. ALEXANDER, M.D.

LEGAL STATUS OF PHYSIOTHERAPISTS

Pursuant to an amendment of the Medical Act by the Legislature, the State Board of Medical Education and Licensure in 1914 established rules and regulations for the licensure of those who desire to treat persons by massage or other mechanical means. The name physiotherapy is given to this form of practice of the healing art. It includes manual, physical, and mechanical applications; or treatments by the application of water, air, heat, cold, light, sun, electricity, or any other physical element.

Licensure is required of all who use these methods. Specific preliminary and professional qualifications are required for entrance to the examination for licensure.

The license issued to those practicing physiotherapy will not confer the right to use the title of "Dr." nor to apply any of these treatments except upon the request of a physician or other person duly authorized by law to order the same. Nor will it authorize the holder to practice pharmacy, dentistry, or osteopathy, or any other drugless method not specifically mentioned on the license, nor to treat persons sick with quarantinable diseases, nor to practice surgery, midwifery or medicine by the use of drugs administered internally or externally.

Physicians referring cases to physiotherapists should ascertain whether such are licensed as required, else they may find themselves unwittingly encouraging and abetting the illegal practice of the healing art. Numerous cases have recently been reported which savor strongly of conspiracy to violate the law, and may jeopardize the licenses of the physicians involved. A copy of *Bulletin No. 19M* covering this regulation may be secured by addressing the Board.

I. D. METZGER, M.D., President,

Pennsylvania State Board of Medical Education and Licensure.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8014 Jenkins Arcade Building
Pittsburgh, Pa.

COUNCILOR-DISTRICT MEETINGS

Section 3, Chapter 3 of the By-Laws states that "A Councilor District meeting shall be held in each district once every two years in the even years." The year 1926 therefore is the year for the holding of meetings in the ten Councilor Districts. The season for holding such meetings is at hand, and it is to be hoped that in each Councilor District two or more county societies will vie with the others in the district for the honor of conducting this year's Councilor meetings.

The officers in the county societies wishing to undertake this project will, upon request, receive the utmost coöperation of the District Councilor and the Secretary of the State Society. It may be that these latter officers can be of great assistance in developing a program, and in obtaining the coöperation of the entire group of societies comprising the Councilor District.

ITEMS OF INTEREST

On April 10th Secretary Koch of the Department of Education reported that a total of 10,416 practitioners of the healing art were registered under the new annual registration act. Of this number about three hundred were drugless therapists.

In a daily paper published in a western Pennsylvania county seat, we recently noted the following paid advertisement: "John Doe, blank address, the only *legally licensed* chiropractor in the county."

A party of members of our Society, in some instances accompanied by their wives, traveled by special car from Pittsburgh to Dallas, Texas, to attend the 1926 House of Delegates and the Scientific Sessions of the American Medical Association.

HONOR ROLL FOR 1926

Any member whose dues for the current year have not been paid on or before March 31st ceases to maintain full membership, and forfeits the protection of the Medical Defense Fund from December 31st of the preceding year to the date of payment of his delinquent dues. Wide-awake county medical society officers always make great effort to maintain all their members in good standing. This year the efforts of the various county society officers have been actively supported by the various District Councilors. As a result, twenty-seven of our sixty-three component county societies have qualified for the 1926 Honor Roll, having collected and remitted on or before March 31st the 1926 dues of all their members.

Compared with 1925 and expressed in percentages, the standing of the various societies is as follows:

	1926	*1925*
Adams	100%	100%
Center	100%	100%
Clarion	100%	100%
Clinton	100%	100%
Greene	100%	100%
Huntingdon	100%	100%
Lehigh	100%	100%
McKean	100%	100%
Susquehanna	100%	100%
Warren	100%	100%
Sullivan	100%	100%
Monroe	100%	100%
Montgomery	100%	100%
Wyoming	100%	100%
Montour	100%	100%
Berks	100%	99%
Bucks	100%	98%
York	100%	97%
Clearfield	100%	96%
Mercer	100%	96%
Indiana	100%	91%
Union	100%	86%
Mifflin	100%	84%
Somerset	100%	83%
Elk	100%	82%

	1926	1925
Westmoreland	100%	75%
Venango	100%	60%
Butler	98%	91%
Lycoming	98%	100%
Dauphin	98%	80%
Delaware	98%	95%
Carbon	97%	100%
Armstrong	97%	98%
Crawford	97%	98%
Lebanon	97%	97%
Schuylkill	97%	96%
Luzerne	97%	90%
Tioga	97%	90%
Lancaster	97%	89%
Columbia	97%	100%
Cambria	96%	98%
Franklin	96%	94%
Beaver	96%	75%
Northumberland	95%	97%
Northampton	95%	91%
Bradford	94%	93%
Cumberland	94%	88%
Jefferson	94%	81%
Lawrence	94%	67%
Chester	91%	95%
Juniata	91%	92%
Fayette	91%	99%
Wayne	90%	83%
Washington	89%	97%
Blair	88%	84%
Potter	87%	80%
Lackawanna	84%	71%
Erie	83%	96%
Bedford	82%	12%
Snyder	66%	77%

Total membership, April 18, 1925, 7,017; same date, 1924, 7,026; same date, 1923, 6,952; same date, 1922, 6,807; same date, 1926, 7,206.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since March 17th. Figures in the first column indicate county society numbers; second column, State Society numbers.

March 17	Luzerne	210-220	5261-5271	$55.00
	Dauphin	121-127	5272-5278	35.00
19	Clearfield	63-64	5279-5280	10.00
	Clinton	3	5281	5.00
	Adams	25	5282	5.00
	Butler	46-47	5283-5284	10.00
	Montour	16-17	5285-5286	10.00
	Susquehanna	18	5287	5.00
	Lawrence	53-60	5288-5295	40.00
	Greene	26-27	5296-5297	10.00
	Mercer	62	5298	5.00
	Huntingdon	30-32	5299-5301	15.00
	Franklin	39-44	5302-5307	30.00
	McKean	21-34	5308-5321	70.00
	Chester	33-47	5322-5336	75.00
	Tioga	1, 3-17, 19-22	5337-5356	100.00
	Berks	120-123	5357-5360	20.00
20	Philadelphia	1302-1371	5361-5430	350.00
	Bradford	28-36	5431-5439	45.00
	Jefferson	36-42	5440-5446	35.00
	Mercer	63-68	5447-5452	30.00
	Northampton	85-99	5453-5467	75.00
	McKean	35	5468	5.00
23	Indiana	38-45	5469-5476	40.00
	Erie	68-69	5477-5478	10.00
	Lycoming	93-99	5479-5485	35.00
	Franklin	45	5486	5.00
	Venango	33-46	5487-5500	70.00
	Cambria	123-133	5501-5511	55.00
	Bedford	7-8	5512-5513	10.00
	Columbia	32	5514	5.00
March 23	Northampton	100-106	5515-5521	35.00
	Fayette	105-108	5522-5525	20.00
	Lancaster	91-116	5526-5551	130.00
	Westmoreland	87-126	5552-5591	200.00
	Carbon	1-31	5592-5622	155.00
	Lackawanna	99-121, 123-124, 126-131	5623-5653	155.00
	Dauphin	128-131	5654-5657	20.00
	Mercer	69	5658	5.00
	Wayne	1-12	5659-5670	60.00
	Cumberland	21-24	5671-5674	20.00
24	Montour	18-19	5675-5676	10.00
	Northampton	107-112	5677-5682	30.00
	Somerset	34	5683	5.00
	Beaver	42-61	5684-5703	100.00
	Huntingdon	33	5704	5.00
	Schuylkill	122-128	5705-5711	35.00
	Mercer	70	5712	5.00
	Franklin	46	5713	5.00
	Luzerne	221-235	5714-5728	75.00
	Northumberland	49-57	5729-5737	45.00
	Clearfield	65	5738	5.00
	Perry	15	5739	5.00
	Clinton	22-23	5740-5741	10.00
	Dauphin	132-135	5742-5745	20.00
	Delaware	88	5746	5.00
26	McKean	36	5747	5.00
	Center	25	5748	5.00
	Wayne	14	5749	5.00
	Mercer	71	5750	5.00
	Dauphin	136-139	5751-5754	20.00
	Lawrence	61	5755	5.00
	Venango	47-48	5756-5757	10.00
	Wayne	13	5758	5.00
	Chester	48-54	5759-5765	35.00
	York	116-123	5766-5773	40.00
27	Erie	70-82	5774-5786	65.00
	Somerset	35, 37	5787-5788	10.00
	Bedford	9	5789	5.00
	Northampton	113-118	5790-5795	30.00
	Washington	113-115	5796-5798	15.00
	Butler	48-49	5799-5800	10.00
	Franklin	47-48	5801-5802	10.00
	Delaware	89	5803	5.00
	Wayne	15	5804	5.00
30	Washington	116-119	5805-5808	20.00
	Lawrence	62	5809	5.00
	Montgomery	141-146	5810-5815	30.00
	Dauphin	140-152	5816-5828	65.00
	Luzerne	80, 236-245	5829-5839	55.00
	Venango	49	5840	5.00
	Columbia	33-35	5841-5843	15.00
	Bradford	37-38	5844-5845	10.00
	Franklin	49	5846	5.00
	Juniata	10	5847	5.00
	Cumberland	25-29	5848-5852	25.00
	Armstrong	34-48	5853-5867	75.00
	Cambria	134-144	5868-5878	55.00
	Mifflin	26	5879	5.00
	Greene	28-29	5880-5881	10.00
	Montour	20-22	5882-5884	15.00
	Beaver	62-71	5885-5894	50.00
	Jefferson	43-45	5895-5897	15.00
	Chester	55-61	5898-5904	35.00
	Tioga	23-24	5905-5906	10.00
	Butler	50-53	5907-5910	20.00
	Bucks	54-62	5911-5919	45.00
	Blair	75-84	5920-5929	50.00
	Lancaster	117-126	5930-5939	50.00
	Montour	23	5940	5.00
	Venango	50	5941	5.00
	Dauphin	153-155	5942-5944	15.00
	Lycoming	100-107	5945-5952	40.00
	Mifflin	27	5953	5.00
31	Luzerne	246-255	5954-5963	50.00
	Tioga	25-30	5964-5969	30.00
	Huntingdon	34-36	5970-5972	15.00
	Bedford	10-12	5973-5975	15.00
31	Northampton	119-123	5976-5980	25.00

March	31	Delaware	90-92	5981-5983	15.00
		Washington	120-122	5984-5986	15.00
		Franklin	50-51	5987-5988	10.00
		Lancaster	127-129	5989-5991	15.00
		Wayne	16-20	5992-5996	25.00
		Somerset	36, 38-39	5997-5999	15.00
		Cumberland	30-32	6000-6002	15.00
		Armstrong	49-50	6003-6004	10.00
		Indiana	46-55	6005-6014	50.00
		Montgomery	147	6015	5.00
		Bradford	39	6016	5.00
April	1	Erie	83-106	6017-6040	120.00
		Lackawanna	122, 132-182	6041-6092	260.00
		Jefferson	46-48	6093-6095	15.00
		Somerset	40-41	6096-6097	10.00
		Beaver	72-81	6098-6107	50.00
		Washington	123	6108	5.00
		Venango	51	6109	5.00
		Butler	54	6110	5.00
		Snyder	4-6	6111-6113	15.00
		Mifflin	28	6114	5.00
		Schuylkill	129-136	6115-6122	40.00
		Bucks	63-68	6123-6128	30.00
		Montgomery	148-149	6129-6130	10.00
		Dauphin	156	6131	5.00
		Dauphin	157	6132	5.00
		Columbia	36	6133	5.00
		Armstrong	51	6134	5.00
		Delaware	93-96	6135-6138	20.00
		Indiana	56-57	6139-6140	10.00
		Philadelphia	1372-1900	6141-6669	2,645.00
	2	Washington	124-125	6670-6671	10.00
		Venango	52	6672	5.00
		Lackawanna	183-187	6673-6677	25.00
		Somerset	42	6678	5.00
		Northampton	124-127	6679-6682	20.00
		Adams	26	6683	5.00
		Susquehanna	19	6684	5.00
		Wayne	21-23	6685-6687	15.00
		Luzerne	256-264	6688-6696	45.00
		Schuylkill	137-138	6697-6698	10.00
	3	Fayette	109-122	6699-6712	70.00
		Westmoreland	149	6713	5.00
		Lackawanna	188-192	6714-6718	25.00
		York	124	6719	5.00
		Northumberland	58-59	6720-6721	10.00
		Wayne	24-25	6722-6723	10.00
		Jefferson	49	6724	5.00
		Beaver	82	6725	5.00
		Westmoreland	127-148	6726-6747	110.00
		Berks	124-128	6748-6752	25.00
		Somerset	43-45	6753-6755	15.00
		Luzerne	265-267	6756-6758	15.00
		Northampton	128-129	6759-6760	10.00
	6	Armstrong	52	6761	5.00
		Juniata	11	6762	5.00
		Chester	62-65	6763-6766	20.00
	7	Lehigh	89-111	6767-6789	115.00
		Bucks	69	6790	5.00
		Jefferson	50	6791	5.00
	8	Northumberland	60-64	6792-6796	25.00
		Washington	126	6797	5.00
		Philadelphia	1901-1932	6798-6829	160.00
	9	Northumberland	65	6830	5.00
		Allegheny			
		942-1060, 1062-1081, 1083-1219		6831-7106	1,380.00
	10	Delaware	97-98	7107-7108	10.00
		Erie	107-113	7109-7115	35.00
		Crawford	1-45	7116-7160	225.00
	13	Allegheny	1220-1238	7161-7179	95.00
		Cumberland	33	7180	5.00
		Cambria	145-146	7181-7182	10.00
	14	Dauphin	158-161	7183-7186	20.00
		Lawrence	63	7187	5.00
		Bedford	13	7188	5.00
		Delaware	99	7189	5.00
		Monroe	15	7190	5.00
	15	Westmoreland	150-154	7191-7195	25.00
		Washington	127	7196	5.00
April	15	Luzerne	268	7197	5.00
		Erie	114-117	7198-7201	20.00
	16	Schuylkill	139	7202	5.00
		Mercer	72-73	7203-7204	10.00
	17	Berks	129	7205	5.00
		Butler	55	7206	5.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to April 15:

ADAMS: *Resignation*—William J. Barnes, New York City.

ALLEGHENY: *New Members*—George E. Bair, 643 Braddock Ave., Braddock; Lee E. McCartney, 1100 State St., Coraopolis; Obed Yost, Frick Bldg., P. L. Winston, 7902 Frankstown Ave., Robert N. Bowman, 2514 Shady Ave., A. Finegold, 5144 Butler St., A. Pachel, Mercy Hospital, Pittsburgh. *Reinstated Members*—William N. Cunningham, 1911 Braddock Ave., H. Frankenstein, 2035 Center Ave., Pittsburgh; Charles A. Rankin, 1016 Walnut St., McKeesport. *Transfer*—Carlton H. Davidson, 1812 Brownsville Road, Pittsburgh, from Fayette County Society; James S. Hammers, Mayview, from Chester County Society. *Resignation*—Charles N. Silman, New York City, formerly of Pittsburgh. *Deaths*—James H. Hall, Pittsburgh (Leonard Med. Coll. '06), Jan. 11, aged 45; Edward A. Weiss, Pittsburgh (Univ. of Pgh. '00), March 24, aged 48.

BLAIR: *New Member*—C. B. Daugherty, 1105 Logan Ave., Tyrone. *Resignation*—Fred Bloomhardt, Manila, P. I. *Death*—Samuel L. Stonebreaker, Tyrone (Coll. Phys. & Surg., Balt. '05), Feb. 25, aged 46.

BRADFORD: *Death*—John W. Phillips, Troy (Balt. Med. Coll. '96), Mar. 12, aged 52.

BUCKS: *Deaths*—Alfred E. Fretz, Sellersville (Univ. of Penna. '96), Mar. 30, aged 51; Howard A. Hellyer, Penns Park (Univ. of Penna. '68), Mar. 11, aged 81; Felix A. Murphy, Doylestown (Jeff. Med. Coll. '01), Feb. 10, aged 49.

CAMBRIA: *New Member*—Chalmers Craig, 239 Strayer St., Johnstown.

CARBON: *New Member*—John F. E. Boyer, Mauch Chunk.

CRAWFORD: *Transfer*—Luther J. King, Conneautville, from Armstrong County Society. *Death*—John W. Hazen, Meadville (Univ. of Penna. '20), Mar. 6, aged 30; Frank L. Lewis, Atlantic (Univ. of Pgh. '96), recently, aged 55.

CLINTON: *Resignation*—Donald M. Rothrock, Youngstown, Ohio.

CHESTER: *Death*—Jesse K. Patrick, West Chester (Univ. of Pa. '15), recently, aged 37. *Transfer*—Maurice Ostheimer, Whitford P. O., from Philadelphia County Society.

DAUPHIN: *New Members*—Harry H. Rhodes, 256 N. Union St., Middletown; Frederick R. Perfect, 325 Market St., Lykens; Ida M. Tancock, State Hospital, Harrisburg. *Transfer*—Florence E. Kraker, Harrisburg, from Philadelphia County Society. *Removal*—Frank L. Shenk from Linglestown to Palmyra (Lebanon Co.). *Resignation*—Francis E. Shields, Louis C. Goldman, Harrisburg.

DELAWARE: *New Members*—James W. Brice, 435 E. Broad St., Chester; George F. Crothers, 10th & Market Sts., Marcus Hook.

FAYETTE: *Resignation*—Maurice Menzalora, Uniontown. *Death*—Owen R. Altman, Uniontown (Jeff. Med. Coll. '01), Feb. 23, aged 55.

GREENE: *New Member*—Donald R. Jacobs, Waynesburg.

LANCASTER: *Removal*—William C. Keller from Lancaster to 335 Maclay St., Harrisburg (Dauphin Co.).

LACKAWANNA: *New Members*—Reed Burns, Honesdale; Homer H. Snyder, Wyoming Ave. & Delaware St., Scranton. *Transfer*—Samuel J. Morris, 909 Mul-

berry St., Scranton, from Clearfield County Society. *Resignation*—Meyer A. Kline, Dalton. *Death*—Morgan J. Williams, Scranton (N. Y. Univ. Med. Coll. '81), recently, aged 77.

LEHIGH: *New Member*—Joseph G. Good, 611 Turner St., Allentown.

LUZERNE: *New Member*—Pearson A. Meck, 159 S. Market St., Nanticoke. *Reinstated Members*—Frank P. Summa, 130 So. Market St., John A. Norstedt, 173 E. Broad St., Nanticoke.

LYCOMING: *Death*—Ralph Steans, Lewisburg (Univ. of Penna. '91), March 19, aged 63.

MCKEAN: *Reinstated Member*—Guy S. Vogan, Kane.

MERCER: *Death*—John F. Spearman, Sharon (Coll. Phys. & Surg., Balt. '12), recently, aged 37.

NORTHUMBERLAND: *New Members*—James A. Hughes, 213 W. 3rd St., William R. Buckley, 3rd & Walnut Sts., Bernard J. McDevitt, 144 So. Hickory St., Amos B. Schnader, 38 W. 3rd St., Mount Carmel; Walter E. Kiefer, 130 Catawissa St., Sunbury. *Transfer*—John H. Snyder, 48 Fairmount Ave., Sunbury, from Montour County Society.

PERRY: *Death*—John A. Sheibly, Shermans Dale (Univ. of Pgh. '91), recently, aged 67.

PHILADELPHIA: *New Members*—Lillian A. Clark, 1812 No. 11th St., Carl J. Bucher, 12th & Spruce Sts.; Alfred A. Euster, 7101 Torresdale St.; Ralph V. Moss, 1643 Wakeling St.; Warren Stirling, 707 Medical Arts Bldg.; Arthur First, 12th & Spruce Sts.; Ella M. Freas, 3412 Spring Garden St.; Jacob Kaminsky, 2460 No. 31st St.; Sherman T. Moyer, 3346 N. 15th St.; William F. Schmidt, 6008 Torresdale Ave.; Joyce Ten Eycke Sheridan, 5722 Chew St.; Herman L. Weiner, 1824 S. 5th St.; Austin T. Smith, 259 So. 17th St.; Valentine W. M. Wright, 1820 Pine St., Philadelphia; Joseph Greenwald, 1130 Main St., Darby (Del. Co.). *Reinstated Members*—Alex. E. Burke, 5236 Spruce St.; Charles J. Cavanagh, 3800 Chestnut St. *Resignation*—George P. Meyer, Camden, N. J.; Maude S. Abbott, Philadelphia. *Transfer*—Edith H. Matzke, 3117 W. Penn St., Gtn., from Union County Society; William J. McConnell, 230 Cedar Lane, Upper Darby, from Allegheny County Society; Karl Kornblum, 5117 Baltimore Ave., from Clearfield County Society. *Deaths*—A. B. Lichtenwalner, (Hahnemann Med. Coll. '91), Mar. 6, aged 65; J. Thompson Schell (Med. Chir. Coll., Phila. '95), Feb. 22, aged 54; George W. Spencer (Jeff. Med. Coll. '92), Mar. 7, aged 56.

SCHUYLKILL: *New Member*—William Dzurek, Pottsville Hospital, Pottsville.

TIOGA: *Resignation*—Edith Fowler Wheeler, Cortland, N. Y., formerly of Mansfield. *Death*—John M. Gentry, Wellsboro (Coll. of Phys. & Surg., Balt. '84), Apr. 13, aged 83.

WASHINGTON: *Removal*—Aida Sloan from Washington to 2223 Carson St., Pittsburgh (Alleg. Co.); Dell D. Butler from Fredericktown to Robert Packer Hospital, Sayre (Bradford Co.).

YORK: *New Member*—Harry M. Read, 441 Linden Ave., York.

While the National League of Women Voters has declined to add a birth-control study to the agenda of its Committee on Child Welfare, other forces seem to be at work on the problem. The world birth rate is reported as steadily declining throughout the civilized world, particularly in large cities, according to statistics collected by the Health Committee of the League of Nations. In Philadelphia, the rate in 1918 was 24.09, while in 1925 it was 19.74. An encouraging factor is, however, that the infant mortality has dropped even lower. In 1918 the rate per 1,000 was 125.07, while in 1925 it was but 76.6.

REPORT OF TWO SPECIAL COMMITTEES TO CONFER WITH STATE EXAMINING BOARDS OF PENNSYLVANIA AND NEW JERSEY

At the annual session of 1925 at Harrisburg, during the session of the House of Delegates two matters of importance arose which appeared to be of grave significance to the medical profession of our State, both having to do with regulations of the Board of Medical Education and Licensure of Pennsylvania.

The first question was raised by the managing director of the National Board of Medical Examiners in protest against the ruling of our State Board that medical men who have successfully passed the National Board must practice medicine for a period of two years in some other state before becoming eligible for licensure in Pennsylvania. A resolution suggesting reconsideration and change of this ruling was presented to the meeting, but, on receipt of a telegram from representatives of the National Board, was withdrawn from consideration of the Society.

The second question concerned the strained relations of the examining and licensing boards of New Jersey and Pennsylvania, a result of a ruling on the part of the Pennsylvania Board that interns of certain hospitals in New Jersey could not be recognized and would not be eligible for licensure in Pennsylvania until regulations adopted by the Pennsylvania Board should be complied with. These regulations were and are applied to interns of all hospitals, whether in Pennsylvania or in other states. The New Jersey Board, as an act of reprisal, thereupon outlawed every hospital in Pennsylvania in respect to the eligibility of its interns for registration in the State of New Jersey. These matters pertaining to the second question were presented to the Pennsylvania House of Delegates by the secretary of the Medical Society of New Jersey.

After considerable discussion, a resolution was passed to the effect that the Governor of Pennsylvania be asked to appoint a commission composed of representatives of medicine in Pennsylvania and the Attorney General of the State to confer with a similarly composed body from New Jersey, with a view to the promotion of a better understanding and a settlement of the difficulties.

The president appointed Drs. Appel and Henry to represent the Medical Society of the State of Pennsylvania in the proposed conference. Later, on representations from the National Board, a committee consisting of Drs.

Donaldson, Appel, Albertson, Hammond, and Henry, with the president ex-officio, was assigned the duty of effecting, if possible, settlement of the difficulty between the National Board and that of Pennsylvania.

As a result, these respective committees conferred with the Pennsylvania Board and subsequently with the Governor concerning the first matter, namely, the difficulty with the National Board, and succeeded in convincing the Pennsylvania Board that the restriction in regard to compulsory practice of two years for those who have successfully passed the National Board as well as for those passing other high-grade state examinations, should be removed, and to the great satisfaction of the committee, this action was taken.

With reference to the second matter, the unfortunate situation with New Jersey, the chairman was able—Governor Pinchot cordially coöperating—to arrange a meeting with the New Jersey medical men and the Attorney-Generals in Camden, where the Pennsylvania commission was most hospitably entertained at luncheon. Briefly told, the result of the conference was that entire agreement was reached, a mutual standard for interns was agreed upon to be recommended to the New Jersey State Board, and the removal of the obnoxious restriction placed upon the Pennsylvania hospitals was promised.

The chairman of the Pennsylvania committee has thanked the Governor of Pennsylvania in the name of the Society, and in return has received his congratulations for the effectual work done by the committees.

J. Norman Henry, M.D., *Chairman.*

YE GOLF PLAYERS

Bring your golf clubs to the State Society Meeting, October 11th to 14th. Arrangements have been made with a number of the golf clubs located near Philadelphia whereby the visiting members of the Medical Society of the State of Pennsylvania will have an opportunity to play golf during their stay in Philadelphia, as guests of the Philadelphia County Medical Society. Tickets will be issued at the time of registration which will enable the members to select the golf course of their choice, and the only expense will be the caddie's fee.

A. Wiese Hammer,
S. Calvin Smith,
John Welsh Croskey, *Chairman,*
The Aldine Hotel, Philadelphia.

THE SURGICAL SECTION PROGRAM

The Section on Surgery of the Medical Society of the State of Pennsylvania will present its program this year on the same plan as that in effect last year; viz., 55-minute symposia followed by general discussions, the presentation of eight 5-minute case reports, and two periods devoted to addresses by special guests. The symposia will deal with thoracic surgery, uterine displacements, the thyroid, and industrial surgery. One session will be devoted entirely to surgical clinics to be held at the Philadelphia General Hospital by Philadelphia members.

The guests of the Section will be Dr. Joseph C. Bloodgood, of Baltimore, who will present the subject of "Bone Tumors," and Dr. Edward C. Kendall, of the Mayo Clinic, on "Physiology of the Thyroid."

County Society Reports

ALLEGHENY—APRIL

The annual election and banquet was held on April 15th, at which the following officers were elected for the ensuing year: president, H. E. McGuire; first vice-president, C. R. Jones; second vice-presidents, T. H. Manley, W. B. Harvey, R. J. Askin; secretary, A. H. Colwell; treasurer, R. L. Anderson; district censor, J. I. Johnston; judicial board, C. H. Henninger, J. M. Thorne, F. B. Utley, F. B. Miller, James A. Lindsay; directors, W. F. Donaldson, G. W. Grier, W. H. Mayer, W. H. Robinson, J. J. Johnston; delegates to State Society meeting, W. H. Mayer, I. H. Alexander, C. J. Bowen, C. B. Maits, C. J. Vaux, R. L. Anderson, C. C. Mechling.

The election was followed by a banquet, attended by about 500 members, at which addresses were made by Drs. Ira G. Shoemaker and Harry W. Albertson, respectively president and president-elect of the State Society.

Dr. Shoemaker dwelt chiefly upon the rôle and duties of the general practitioner. In this age of specialism, the speaker deplored the fact that the old family doctor is rapidly fading out of the picture, and stressed the need of making attempts to restore the general practitioner to his original field of work.

Dr. Albertson interestingly discussed the financial affairs of the State organization—the recent registration bill, the poorly paid physician, the purchase of a permanent home in Harrisburg, the establishment of a legal reserve to fight malpractice suits and protect the profession in general, the recognition of the need of medical benevolence toward the Society's members, and the aim of establishing a home to which the unfortunate members of the profession might be referred when needy.

The final speaker of the evening was our well-known humorist, Strickland Gillilan, who entertained with his numerous witticisms.

L. G. Beinhauer, M.D., Reporter.

BERKS—MARCH

At the stated meeting March 9th, Drs. Gabriel Tucker and William F. Moore of the Bronchoscopic

Clinic of the Jefferson Hospital, Philadelphia, addressed the meeting on "Foreign Bodies, Opaque and Nonopaque, in the Air Passages." Motion pictures were shown illustrating the technic of bronchoscopy for diagnosis and treatment. A lantern-slide demonstration was given of a number of children suffering with stricture of the esophagus. Attention was called to the fact that many of these cases which are of long duration are due to the careless disposition of lye cans in ash receptacles or on dumps. Many small children, unaware of the poisonous contents of the can which is too often left within their reach, drink part of the contents, or use the empty can as a water cup. In these cases there may not be any noticeable signs of the child's illness for a day or two, but finally there is inability to swallow on account of the stricture in the esophagus. The profession is urged to coöperate in influencing the Legislature to pass necessary legislation that will require manufacturers properly to label cans and packages containing lye and other poisonous preparations. CLARA SHETTER-KEISER, M.D., Reporter.

CAMBRIA—APRIL

The regular meeting convened at Johnstown, April 26th, in the Y. M. C. A. building, President L. W. Hornick presiding.

Dr. H. J. Cartin reported some experiences in 550 cases of laryngeal diphtheria intubated in private practice. The paper was of special interest because of the following facts: We believe that 550 cases done by one man in private practice is a world record. The mortality of 14+ per cent is especially low. The experiences related were all in consultation practice with men of our own society.

Many of the intubations were under unfavorable conditions encountered in the homes of our foreign and native population. Here opposition to the operation was at times dangerous and difficult to overcome. In one instance a hasty exit from a basement cellar was necessary to save the operator from a sinister and drunken crowd of men and women. Working under such circumstances, help was out of the question. All the cases were performed in the homes without the aid of nurses or trained assistants.

Each case represented an emergency, many being practically morbid before intubation. At one place the family thought the patient was dead when the doctor arrived. No patient was ever too far gone to attempt the operation. No patients were lost that were intubated early.

Two hours is sufficiently long to wait after extubation to decide whether reintubation is necessary. Only one case in the 550 was lost after waiting the usual time. One child was intubated thirteen times, another twelve. In no case was tracheotomy done.

The diagnosis is not always easily made. The most helpful point is not the appearance of the membrane, because that is too far down to see, but the loss of voice and accompanying dyspnea. In consultation practice, supposed pneumonia cases were found to be laryngeal diphtheria, and cases thought to be laryngeal diphtheria were found to be retropharyngeal abscess.

Dr. Cartin said: "Physicians are urged to attempt intubation even though hospital facilities are lacking. No child should be allowed to die of laryngeal diphtheria without this chance for life. Get a trained man if possible. Obtain adequate training for yourself. If neither of these is possible do not let them go out without attempted intubation, however inexpert."

Dr. H. B. Anderson read a paper on the electrocardiograph and the advantages afforded the physician and surgeon by its use. After explaining the principles of the electrocardiograph and electrocardiogram his summary is as follows.

The electrocardiograph is the most reliable method we possess for the study of myocardial disease. In metabolic and toxic cases it assists the surgeon in making a diagnosis, in directing his preoperative care, and often in determining the operative procedure to which he subjects his patients. The physician finds a use for the electrocardiograph in a study of all diseases and suspected diseases of the heart.

If for no other reason than the impetus it gives to the study of heart disease, an affliction which stands near the top of the list of causes of death—it is of the greatest value to a community.

Following the scientific papers, Charles Craig, M.D., of Johnstown, was elected a member of the society. Dr. Barr reported that articles are being written and published in the local papers on the value of toxin-antitoxin in diphtheria. The Physicians' Telephone Exchange is a reality, and is in operation.

W. B. TEMPLIN, M.D., Reporter.

LUZERNE—APRIL

A regular meeting was held in the Society's building on April 7th, Dr. Mayock presiding. Dr. John W. Sarpolis of Glen Lyon was elected to membership. At the request of Dr. Taylor, the action of the Society at the last meeting, naming the library the Lewis Harlow Taylor Library, was rescinded. Dr. G. E. Baker reported a case of primary sarcoma of the thyroid gland. The pathological findings were discussed by Dr. R. R. Janjigian, and the specimens and slides demonstrated.

Dr. Baker: Malignant disease of the thyroid gland is usually preceded by an adenomatous state. The Mayo Clinic reports 19 cases of sarcoma out of 290 cases of malignant tumors of the thyroid studied. The mortality was 100 per cent. The most frequent type is the round cell.

A white male, 66 years old, first noticed a hard round lump in his neck about one year before death. About two months before death he had a herniorrhaphy, after which he began to notice dyspnea and palpitation, associated with enlargement of the mass in his neck, so that at the end of two weeks his neck had become quite large. He developed increasing dyspnea and aphonia, and lost weight. Micturition became frequent, with negative urinary findings. Cardiac dullness was much enlarged. The liver and spleen were not palpable. The Wassermann was negative.

At autopsy, there was sarcoma of the thyroid gland, with metastasis to the myocardium and perirenal tissues.

Dr. Lewis S. Reese: Ear, Nose, and Throat Complications of the Acute Infectious Diseases.—Primary diphtheria of the ear is rare, but acute suppurative otitis media occurs in about 10 per cent of all cases of diphtheria, and it usually becomes chronic. In scarlet fever, the younger the child, the greater the frequency of otitic involvement. At the Philadelphia Hospital for Contagious Diseases, treatment of the nasopharynx with antiseptic solutions reduced the occurrence of operative mastoiditis from forty-two in six months of 1923 to fourteen in the corresponding six months of 1924. In from 60 to 90 per cent of all cases of measles, the tympanic cavity contains either a serous or purulent exudate, and the membrana tympani is inflamed in about fifty per cent. Since 1918, influenza has manifested a strong predilection to attack the middle

ear by extension from the nasopharynx through the eustachian tube. It is extremely violent and rapid in its course, and mastoiditis is very common.

Dr. Scheifly: Strabismus following measles in a young child occasionally occurs. It is caused by stimulation of the third nerve due to hyperopia, and not by the measles, as many doctors and most parents believe. There is only one treatment, and that is early correction by lenses. In influenza, headache following the infection should call attention to the antra and frontal sinuses.

Dr. Ahlborn: I remember a woman in 1910 who refused to have an enlarged right lobe of the thyroid removed. Later, the left lobe enlarged and was removed. She died with pneumonic symptoms. Autopsy revealed sarcoma of the lung secondary to sarcoma of the right lobe of the thyroid. This lobe showed an encapsulated growth in the middle of the thyroid tissue which was probably the cause of the primary enlargement of the right lobe and the later compensatory enlargement of the left lobe.

Dr. Connole: A suppurating ear after diphtheria is important in the light of preventive medicine, as it may cause other cases of diphtheria. Every running ear in children should be cultured before such a child is admitted to a general hospital.

LEWIS T. BUCKMAN, M.D., Reporter.

PHILADELPHIA
March 10, 1926

The president, Dr. Moses Behrend, in the chair.

Dr. W. R. Campbell, University of Toronto, Canada (by invitation): Acidosis and Coma in Diabetes Mellitus.—It has been four years since the first patient, a boy of fourteen, received a dose of pancreatic extract. His blood sugar is normal, he shows no acidosis while living on his twenty-seven units of insulin per day and a restricted diet, and he earns money and is working well.

There is no more important phase of insulin than its usefulness in acidosis, coma, and infection in the diabetic patient. The term "acidosis" is used to cover certain phenomena that occur in disease, and is indefinable in terms of laboratory tests. It covers a syndrome of symptoms, diverse, indefinite, and numerous. Any symptom out of the ordinary may indicate its presence; e.g., anorexia, fatigue, nausea and vomiting, undue restlessness, vertigo, drowsiness, abdominal pain, deep or painful breathing. An accurate appreciation of this varied symptomatology cannot be had by the patient dulled by the anesthetic ketone bodies, but one test should be taught all diabetic patients in order that the condition may be avoided, and that is the ferric-chlorid test for aceto-acetic acid. Acids other than aceto-acetic or beta-oxybutyric may cause acidosis, however. A relative carbohydrate deficiency will produce ketosis and then acidosis in any person, and is much more likely to do so in one who lacks pancreatic secretion. A slowly developing acidosis is harder to treat than an acute one, since there has been a longer-acting disturbance of the mechanism. Infection lessens both the effectiveness and the production of insulin.

Acidosis may be prevented as follows: by the provision of an adequately balanced diet for the diabetic, covering his needs at rest and during light work (if this is impossible without insulin, it must be given); by provision of sufficient fluids, roughage, vitamins, and mineral salts; and by adequate training of the patient, not only dietetic, but informative, as to the cause and progress of diabetes, the use and abuse of insulin, and the importance of the urinalysis.

Acidosis occurs in four classes of patients: the infected, the neglectful, the neglected, and the untreated, and the severity of the acidosis must be judged by the combined clinical and laboratory evidence. Mild cases of acidosis are benefited by warmth, liberal fluid intake, diet, and insulin, which last hastens the relief and makes it more sure. The severe case—with acetone on the breath, glycosuria, dry tongue, and soft eyeball (the sign of dehydration)—must have vigorous treatment. The caloric requirement must be decreased as far as possible by rest in bed, external heat, and nursing which eliminates all unnecessary movements. Liberal fluids must be given in small amounts, warmed, with two liters in the first six hours, four in the first day. Murphy drip, hypodermoclysis, and very occasionally, intravenous injections may be employed. The food intake must be small and mainly carbohydrate. Alkalis do not necessarily form part of the treatment, for an excess may have bad effects, but magnesia, chalk, soda, or citrates may help in quieting the patient. Insulin is the remedy *par excellence* in this condition. It should be given early in ketonic acidosis and in repeated dosage, sufficient carbohydrate being given meanwhile to prevent hyperglycemia. Ten to twenty units every three to four hours is the best dose, judged by the output of glucose in the urine. As soon as possible the diabetic diet is given, and the dosage of insulin more suitably adjusted.

Diabetic coma is a more advanced stage of acidosis. Differential diagnosis must be made from brain tumor, brain abscess, meningitis, and lethargic encephalitis. The prognosis is good, unless complicated by an infection. The treatment for coma is that for acidosis, but it is more urgent and requires immediate hospitalization. Sixty units of insulin should be given as soon as the diagnosis is made, and fluid should be administered early with adjuvant retention enemas of 5 per cent glucose. One gram of glucose should be given with each unit of insulin. Intravenous administration must be slow, a maximum of 10 c.c. per minute, with close watch for a fall in blood pressure, since the circulation of the diabetic in coma is very sensitive to overstrain. The routine use of the stomach pump is bad. Digitalis, by mouth or rectum, should be given early, and added stimulation may be had in hot coffee, caffein, intramuscular injections of ether, or, in cases of failing heart, ¼-c.c. doses of pituitrin every fifteen minutes. Hourly urinalyses should be made. Insulin must be continued until the patient is again on a permanent diet and the need for it has gone, and alkalis should be administered in moderate doses.

No surgical case need now be refused because of diabetes, if two days are first taken to free the patient from acidosis and to secure a suitable diet. Pus should be drained at once. Nitrous oxid is the anesthetic of choice, or paravertebral or intrathecal anesthesia. Local anesthesia is likely to produce sloughing. In cases of gangrene, amputation must be made high enough to secure an ample blood supply; and rest, elevation, dry heat, protection of the part, insulin, and a careful diet, must all be employed. While conservative treatment is best in limited infections, a deep infection should be opened early, both for relief of pain and to prevent further damage to the pancreas.

In discussion, Dr. Orlando H. Petty emphasized the point that the patients must be trained, but he differs from Dr. Campbell in that he does not give to those suffering from acidosis, but not in coma, sugar or grape juice, since they are too eager for excuses to take

carbohydrates. He does not teach them to test for diacetic acid, but warns them that the presence of glucose is a danger signal. Large doses of insulin (20-30 units subcutaneously, and 50 units intravenously) are necessary to bring the patient out of coma, and this must be done as rapidly as possible because of the effect on the heart muscle. He agrees with Dr. Campbell that the surgeon should be one who constantly is doing diabetic surgery.

Dr. Leon Jonas said that alkalis are indicated when there is respiratory distress, or when the urine is free of diacetic acid and the carbon dioxid in the blood is normal.

Dr. W. H. Stoner cited the improvement in the treatment of diabetics at the Philadelphia General Hospital since the establishment in 1924 of a department for metabolic cases, with a chief, assistant, and a graduate nurse for every two patients; with a laboratory staff; and with good equipment ready for operation at all times.

Dr. Rubenstone asked the value of lumbar puncture in diabetic coma.

Dr. Robertson asked whether or not the diabetic can be conscientiously handled by the general practitioner.

Dr. Campbell said that he sometimes uses 20 to 30 gm. of alkali in coma cases, since without alkali the carbon-dioxid content may return only to the low normal, 50, whereas it is better to raise it to 70 after it has once become 50. He strongly advocates the use of sodium chlorid. He agrees with Dr. Stoner that a special ward for metabolic cases has value, since there can be more satisfactory treatment, and progress can be made by knowledge gained under exact conditions. He has had no experience with lumbar puncture as a means of treatment in coma. The treatment of diabetes in general practice is almost a dead loss financially, since so much time is needed. If the practitioner will use the most advanced methods, treatment can be carried on satisfactorily without elaborate metabolic wards.

MARY A. HIPPLE, M.D., Reporter.

YORK—APRIL

The regular monthly meeting was held at 9:00 p. m., Thursday, April 1st. Dr. Edgar T. Shields, Chief of the Section of Tuberculosis Clinics of the State Department of Health, gave an extemporaneous talk on the good work the various tuberculosis clinics and sanitoria are doing. He recommended that each community should have summer camps where undernourished children could derive the benefit of the fresh air, exercise, and sunlight in the country.

W. NEWTON LONG, M.D., Reporter.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK, *Editor*
Rydal, Pa.

WOMEN'S ENTERTAINMENT AT THE STATE MEETING

The wives of physicians will be very busy at the Philadelphia meeting of the Medical Society of the State of Pennsylvania, October 11 to 14, 1926. Several sessions of the Auxiliary will be held in which they will participate, and in addition there will be an abundance of entertainment for them. This will consist of several receptions, a boat ride on the Delaware River and luncheon at the Navy Yard, automobile rides in the suburbs, and daily receptions at the new home of the Philadelphia County Medical Society.

There is nothing that appeals to the visiting ladies more than a trip through the shopping district of Philadelphia. While the physicians are deeply submerged in the scientific aspect of the session, their wives and daughters can saunter through the greatest shops in the country. This is always an irresistible temptation, and they can look to their hearts' content without obligation to buy. It should be noted that the stores of Philadelphia are not simply places where things can be purchased: many of them are truly museums of ancient and contemporary art where historical and ornamental objects in great profusion are on exhibition, and these alone will repay careful study. Music also is rendered daily; fashion parades are appropriately staged; if hungry, tea or dinner may be had; and if tired, attractive rest rooms are at hand.

Those who care for the historical will find the genuine brand in Philadelphia. An hour's walk about the center of the city will reveal much of the glory of the Colonial period; to mention but a few items—Independence Hall, with the greatly beloved Liberty Bell, Christ Church, Carpenter's Hall, the Old Hall of Congress, the Flag House, Old Swedes' Church, Letitia House, Girard College, and the old and curious streets which are fast disappearing.

Of a later period are the great publishing houses, the United States Mint, the Customhouse, the huge manufacturing establishments where everything from a locomotive to a hairpin is made, the new library, the art gallery, the Parkway and the new Delaware River bridge, Fairmount Park with its hundred miles of driveways and much beauty, many smaller parks, the Navy Yard, and miles of interesting suburbs and beautiful country estates, and lastly, the Sesqui-Centennial.

Truly, no wife or daughter of a Pennsylvania physician can afford to neglect the opportunity of a week's sojourn in October of this year, when everything will be at its best, in the City of Brotherly Love, where all are assured of a warm welcome.

MEETING OF THE ALLEGHENY COUNTY AUXILIARY

The regular meeting was held on March 22d, at the High Noon Club, at 8 p. m., instead of the usual afternoon hour, as husbands of members had been invited to attend. There were about 75 present.

A thoroughly interesting program was prepared by Mrs. W. F. Donaldson and her program committee, and Mrs. Theodore Baker and her hospitality committee. The usual business was dispensed with, and action on amendments to by-laws was postponed until the May meeting. Appointments to the nomination committee were announced as follows: Mrs. Thomas McCance Mabon, chairman, Mrs. Edwin Zugsmith, Mrs. Joseph Graheck, Mrs. R. J. Phillips, Mrs. H. W. Morrow. The offices to be filled are president for one year, to fill Mrs. J. I. Johnston's unexpired term, first vice-president, corresponding secretary, treasurer, and three members of the executive board.

The president introduced Mrs. Lawrence Litchfield, who played the following numbers: "Barcarolle" by Rachmaninoff, "The Lark" by Dalakirew, and "Cracovienne" by Paderewski. Mrs. Litchfield is well known as a pianist, and charmed her audience with her skill and sympathetic rendering. She was especially happy in her execution of "The Lark," her second number.

The topic of the evening was one that interested every one—the question of lengthened school hours in relation to the health of the children in our public schools. Mr. Foster, from the Board of Public Education, discussed the question from the school point of view. He emphasized the fact that conditions are radically changed from those of twenty years ago as to buildings, number of pupils, and curriculum; saying that the parents as a group expect more from the school, that the school authorities must always take into consideration the good of the mass of children in all sections of the city, that more attention is given to the individual, which necessitates spending longer periods in school, and that the increased school time is needed because of the widened activities taken over by the schools, and not primarily by the academic studies.

Dr. H. J. Benz, from the Department of Public Health, then presented the question from the point of view of child health. He said that whereas the pupils under the jurisdiction of the health authorities were numbered among the hundreds twenty years ago, they are reckoned in the thousands today. The fact that at the present time the school has greater and more varied activities tends to promote the health of the children, even though they spend a longer time each day in the school. He contrasted the one-room-one-teacher school with the platoon-system school, greatly to the advantage of the latter, urging that it would be unfair, however, to judge results until this system has been in force for at least another year. From present statistics, the system seems far from detrimental to child health. In one school, in a congested district, last month's average attendance was 98 per cent, showing no reason for the statement that the lengthened school hours were injurious. He thought that in a large measure, the movement against the lengthened school hours arose from the teachers who were opposed to it from selfish motives, rather than from the large majority of the parents. He closed with the statement that, as a physician who has had a rather long experience with school health, he was entirely of the opinion that the long hours were beneficial.

Both Mr. Foster and Dr. Benz stated that the present curriculum is not satisfactory, but that special work is being done on this question at present, and thousands of dollars spent in the hope of making a better program for the schools.

MEETING OF THE PHILADELPHIA COUNTY AUXILIARY

The annual meeting was held at the new home of the Philadelphia County Medical Society, 21st and Spruce Streets, Philadelphia, on March 24, 1926. The following officers were elected for the ensuing year: Honorary president, Mrs. Rudolph Blankenburg; president, Mrs. Herman B. Allyn; first vice-president, Mrs. Samuel Bolton; second vice-president, Mrs. George Morley Marshall; third vice-president, Mrs. George A. Knowles; recording secretary, Mrs. Walter Jackson Freeman; corresponding secretary, Mrs. John M. Fisher; treasurer, Mrs. Warren Davis; directors, Mrs. J. C. Applegate, Mrs. Leighton F. Appleman, Mrs. W. Wayne Babcock, Mrs. Moses Behrend, Mrs. I. W. Hollingshead, and Mrs. David Riesman.

At this meeting the Auxiliary voted to present to the Philadelphia County Medical Society a piano to be used in the new home, and accordingly a Steinway piano has been purchased, and will be delivered in time for the dedication of the new home. Future meetings of the Woman's Auxiliary will be held in this building.

THE

MEDICAL SOCIETY OF DELAWARE

SOME NOTES ON CARDIOLOGY*

OLIN S. ALLEN, M.D.
WILMINGTON, DEL.

In order to confine these notes to a few of the essential points in heart work, they have been divided into four main groups: history taking, inspection, percussion and auscultation, and electrocardiography.

(1) *History taking* is very essential in heart work. A clue may thus be obtained to the diagnosis before the examination actually begins. It may also betoken a good prognosis in many cases. The history should always be taken by the clinician himself, and not by a technician, for it is very difficult even for a physician to elicit a clear history.

A searching inquiry should be made regarding the rheumatic triad, as this is the most important factor in the etiology of valvular heart disease. Organic affections of the mitral valve are practically always formed on a rheumatic basis, and invasion and myocarditis generally occur during an attack of rheumatic fever; hence the importance of a complete history. In about fifty per cent of cases, the history will be negative for rheumatism, tonsillitis, and perhaps even for sore throat during childhood, although the patients may admit having had frequent attacks of malaria or biliary colic—which in the majority of cases probably means rheumatic fever. Pneumonia, chorea, osteomyelitis, empyema, septic gall bladder, and prostatic abscesses should also be included in the history-taking, for, either directly or indirectly, they cause degeneration of the large vessels by producing disease of the kidneys.

(2) *Inspection* should be continued throughout the examination, for much information may be obtained from the general appearance and bearing of the patient. The face should be studied for expression, contour, and color changes in the eyes, lips, and mouth. The facial expression in cardiac decompensation is one of great anxiety not unmixed with fatigue. The old saying "cyanosis means mitral disease, and pallor means aortic disease" contains a certain amount of truth, but of course these symptoms do not always indicate cardiac trouble. Teeth, gums, tonsils, and sinuses should also be included in the inspection; and the thyroid gland, if enlarged, no matter how slightly, should be carefully examined. The odor of cardiac cachexia is another important consideration. Once it has been recognized it is never forgotten, and it will often give a clue to the prognosis.

(3) *Percussion* is valuable in outlining the transverse diameter of the heart, and in checking up other methods of diagnosis, but at times it is rather difficult to carry out, especially in patients with an emphysematous chest, or in women with large pendulous breasts.

Auscultation is probably one of the most accurate ways of sizing up the functional capacity of the heart; undoubtedly it is the most convenient, and with a stethoscope and trained ears it is possible to obtain a fairly good idea of the valvular involvement. Auscultation should always be done with the patient lying on his back, and again after exercise, either in or out of bed, if his condition warrants it. It is advisable also to turn the patient on his left side. This throws the heart up against the chest wall, and often brings out diastolic murmurs at the apex that otherwise will be overlooked. When the patient sits up in bed and leans forward, the base of the heart is thrown up against the chest wall, and diastolic murmurs may thus be detected that would otherwise be missed.

It is usually said that mitral insufficiency is the most common valvular defect. If diagnosis is to be based upon a systolic murmur at the apex, this undoubtedly is true; but if proper signs are demanded before diagnosis, mitral insufficiency is found to be one of the least frequent of the valvular defects, while mitral stenosis is a very common one. Therefore, before making a positive diagnosis of mitral insufficiency, all means at the physician's command should be exhausted to insure that no diastolic phase is present in a given murmur. Systolic murmurs mean very little, and become impor-

*Read before the Medical Society of Delaware, Wilmington, October 14, 1925.

tant only when some form of diastolic involvement is present.

Another important symptom in heart work to which little attention is paid is gallop rhythm. This usually indicates enlargement of the heart, and a muscle on the verge of failure. It often appears several hours or even several days before a fatal termination.

(4) *Electrocardiography* undoubtedly is the most accurate method available at the present time of measuring heart-muscle strength and differentiating cardiac arhythmias. When properly interpreted, the cardiograms give positive evidence as to the types of irregularity present, and changes in the cardiograph which indicate branch bundle block are constant and clear. Changes in the curves are found at times before evidence of myocardial degeneration can be obtained by other methods of examination. Herein lies one of the great fields of usefulness of the electrocardiograph. It helps to separate the serious from the unimportant heart conditions, and is a valuable aid in formulating the line of treatment—such as indications for or against digitalis.

In the normal electrocardiogram the P wave represents the contraction of the auricles, and the Q, R, and S waves represent the contraction of the ventricles. The T wave is supposed to represent the aftermath of the contraction of the ventricles, while the straight line from the T wave to the following P wave represents the diastole or rest period of the heart. The P, R, and T waves are always present in the normal electrocardiogram; but the Q and S waves may or may not appear. Their absence does not indicate abnormality. Normally, the P wave always precedes the R wave, while the T wave always follows it. In certain diseases, such as fibrillation, the P wave is absent. At times, the T wave may be inverted in lead 3. This is not especially significant, but when it is inverted in all three leads, and the patient is not digitalized, it is a pretty strong evidence of a badly damaged myocardium. It is necessary, however, to be sure that the patient is not taking digitalis, as this drug will cause inversion of the T wave, and this phenomenon may indicate only that he has reached the point of digitalization.

Premature contractions probably cause the patient the most concern, and undoubtedly bring the majority of patients to the physician, while fibrillation may go on for several years without giving any danger signals. Premature contractions present a peculiar problem to the physician. While cardiac arhythmias may develop after many years of premature contractions; nevertheless, the large majority of these patients go through life without developing any serious heart affection. It is necessary, then, to be careful in formulating a prognosis of such cases, especially in nervous patients.

Innocent as premature contractions may be, however, when they are revealed by the history or the physical examination, a careful study of the cardiovascular apparatus is indicated; but only when there is evidence of heart-muscle disease or a definite involvement with some more serious irregularity do premature contractions become important.

S. E. Corner 23d and Market Streets.

ROENTGENOLOGIC ASPECT OF DUODENAL ULCER*

IRA BURNS, M.D.
WILMINGTON, DEL.

The object of this paper is to present briefly the roentgenological findings in duodenal ulcer in such a way that the internist and surgeon may become more familiar with their interpretation, and be benefited just as is the roentgenologist by the opportunity to see his patients operated upon and to follow up his diagnoses clinically.

Although the existence of duodenal ulcer has been known for a century, it is only since 1900, when Weir analyzed the cases reported in medical literature and gave his own experiences, that this condition has become fairly grounded as an anatomicopathologic entity of great practical moment. The frequency of the disease is shown by the fact that its presence in more than 4,000 cases has been proved by operation in the Mayo Clinic, while a great number have been diagnosed but not operated upon.

The writer is convinced that duodenal ulcer is of far more frequent occurrence than is generally recognized by the profession. Last summer, a small epidemic of this malady occurred, when three cases were referred to him in five days. In two of these, the diagnosis has been confirmed at operation, while the third patient improved under the usual medical treatment.

In the past, ulcer of the duodenum has no doubt been confounded with ulcer of the pyloric end of the stomach, partly because of the assumption that an ulcer in the vicinity of the pylorus must necessarily be gastric, and partly because of the difficulty of determining the exact site of the pylorus. More careful determination of the pyloric site has resulted in the disclosure

*Read before the Medical Society of Delaware, Wilmington, October 14, 1925.

that the ratio of frequency between duodenal and gastric ulcer is far greater than had been supposed, it being now stated as three and even four to one. In the writer's experience it is easily four to one.

It should be borne in mind that x-ray diagnoses, particularly of the gastric tract, are arrived at by a series of more or less regular direct and corroborative evidences, which are fairly constant, yet subject to the same irregularities and variations from the regular as are observed in ordinary clinical manifestations. For instance, in the subject under consideration, the typical roentgenologic findings are a constant filling defect or duodenal deformity. The shape of this may be slightly altered, but it never entirely disappears. Corroborative evidences of gastric spasm are hyperperistalsis, hypermotility, and in some cases pain elicited upon pressure over the duodenal cap, but this latter symptom may often be very misleading.

Duodenal ulcer occurs on the anterior surface of the cap in about nine out of ten cases, and is very seldom found on other surfaces. It is less frequently found as a basal condition. While it may rarely occur in the descending portion of the duodenum, the rapid passing of the barium meal prevents the roentgenologist from making a diagnosis of ulcer beyond the cap with any degree of certainty. Dr. Cole, of New York, who first named the duodenal cap, has told me that on one occasion only has he diagnosed ulcer of the descending duodenum.

Duodenal ulcer, in the writer's series of cases, has occurred in eleven males and seven females, with an average age of twenty-four years. Practically all are of the asthenic type, with accompanying gastroptosis.

Careful x-ray studies should be made in every case, either for original diagnosis, or for confirmation and definitely to localize the lesion.

912 Jefferson Street.

EDITORIAL

PROHIBITION A MEDICOSOCIAL PROBLEM

The failure of prohibition to prohibit is now universally admitted; the only difference of opinion is in the interpretation of the various factors responsible for it. The "drys" blame the nonenforcement of the Volstead Act, and not a few of these enthusiasts would resurrect the implements of torture used during the inquisition that they may impose their will on those who do not happen to agree with them in this matter. And why not? Human nature has not changed. Were not people burned alive, drawn and quartered, and otherwise tortured in a most brutal manner by a sadistic minority in the name of Him who was most compassionate and forgiving? Already, we are paying a pretty stiff price not only in money, but in human happiness. Thousands of American citizens have become spies and "agents provocateurs"; thousands of respectable and usually law-abiding citizens are being humiliated and degraded; the sacred rights of individuals are trampled upon, and common decency outraged—a state of affairs almost as bad as that which followed the French Revolution or existed during the worst days of the Russian Czarist Government.

The great trouble is that issues have become so befogged by fanaticism and intolerance that the average citizen stands in wonder, and, in the language of the street, does not know "where he is at." Obviously, the real social evils were the habitual drunkard and the vile saloon. The man who spent his hard earnings on hard liquor, who neglected his family, and filled the jails had been the social problem. The saloon that furnished him the drink, and also became the hotbed of vice and political corruption, had been the great public nuisance. The moderate drinker, the man who took an occasional drink for its temporary exhilarating effect or for the sake of social amenities has done no worse than the apostles, or even Christ Himself. This man, and he is in the vast majority, fails to see where his perfectly innocent indulgence harms anybody, or why his personal pleasure should be sacrificed for the sake of some alcoholic who cannot be reached by legislation anyway.

Let us take an analogous case—the automobile. All the evils charged against drink may be with equal force applied to this great modern invention. It encourages extravagance, since thousands and thousands of our citizens mortgage their homes and frequently deprive their children of an education that they may own an automobile. It promotes vice, since the youth of our country are using it freely for immoral purposes. Many an innocent maiden has had her first downfall inside a closed car parked in some out-of-the-way place. In fact, the automobile has practically eliminated the houses of assignation as entirely superfluous. The automobile encourages lawbreaking, and has become the convenient means of committing the most atrocious of crimes. Add to this the numerous deaths and injuries caused by the automobile, and the indictment becomes quite formidable. Why not have another amendment to the Constitution, prohibiting the manufacture and sale

of automobiles? Absurd? No more so than the prohibition of the manufacture and sale of liquor, because its excessive use is harmful to society. The American citizen refuses to be governed by edict; the word "verboten" is foreign to his native language, and unless the Government succeeds in making out a stronger case for prohibition than it has been able to do so far, he will treat the Volstead Act with ridicule or contempt.

A phase of prohibition which is of especial interest to physicians is the so-called bone-dry law which operates in a number of States, including Delaware. Of all the absurdities imaginable this one caps the climax. The physicians into whose hands the people entrust their lives and their honor, whose honesty of purpose and integrity must be a *sine qua non* of his calling, is at once branded as a potential bootlegger, and is not to be trusted. Furthermore, his legitimate domain is invaded by ignorant laymen who dictate to him what he may or may not prescribe in case of illness. The physicians in Delaware must keep up their fight against this pernicious accretion to Volsteadism. True, we have been defeated twice, but defeat in the cause of liberty and fair play is an honor. The present outlook for success at the next Legislature is quite favorable, since the change of public opinion that is gradually taking place will help us materially in our fight against hysteria, hypocrisy, bigotry, and intolerance.

Medical News

Deaths

Caleb Blyholder, M.D., of Pittsburgh; Jefferson Medical College, 1873; aged 83; February 24.

Owen R. Altman, M.D., of Uniontown; Jefferson Medical College, 1901; aged 54; February 23.

Byron A. Smith, M.D., of Erie; licensed 1881; formerly a druggist; aged 83; February 25.

James H. Hall, M.D., of Pittsburgh; Leonard Medical School of Raleigh, N. C., 1906; aged 45; January 11.

Frank L. Lewis, M.D., of Atlantic; University of Pittsburgh, School of Medicine, 1896; aged 54; recently.

Zacharach B. Ogden, M.D., of Pittsburgh; University of Pittsburgh, School of Medicine, 1896; aged 56; March 8.

Aaron Rivkees, M.D., of Philadelphia; Medico-Chirurgical College of Philadelphia, 1913; aged 47; February 10.

John W. Phillips, M.D., of Troy; Baltimore Medical College, 1896; aged 52; March 12, at Palm Beach, Florida.

W. C. Baker, M.D., of Hummelstown; University of Pennsylvania, School of Medicine, 1874; aged 76; April 13.

Alfred E. Fretz, M.D., of Sellersville; University of Pennsylvania School of Medicine, 1896; aged 52; March 30.

John S. Beamensderfer, M.D., of Manheim; Jefferson Medical College, 1883; aged 68; February 8, at the Lancaster General Hospital.

George B. Hennigh, M.D., of Perkasie (formerly of Sykesville); Baltimore Medical College, 1891; aged 63; April 6, of heart disease.

Israel Cleaver, M.D., of Reading; University of Pennsylvania, School of Medicine, 1863; Reading's oldest active practitioner; aged 83; April 10.

Frank R. Humphreys, M.D., of Bradford; College of Physicians and Surgeons, Baltimore, 1895; veteran of the World War; aged 54; February 27.

Robert P. Gerhart, M.D., of Linden Hall; Hahnemann Medical College and Hospital of Philadelphia, 1913; aged 38; January 31, of pulmonary tuberculosis.

Ralph Steans, M.D., of Lewisburg; University of Pennsylvania, School of Medicine, 1891; aged 62; March 20, at the Williamsport Hospital, of heart disease.

John W. Hazen, M.D., of Meadville; University of Pennsylvania, School of Medicine, 1920; Secretary-Treasurer of the Crawford County Medical Society; aged 30; April 6.

John A. Sheibley, M.D., of Shermans Dale; University of Pittsburgh, School of Medicine, 1891; formerly member and president of the school board; aged 67; March 15.

Henry M. Hall, Jr., M.D., of Pittsburgh; Medical Department of the University of Illinois, Chicago, 1897; aged 44; January 11, of acute dilatation of the heart and chronic myocarditis.

Eli S. Beary, M.D., of Philadelphia; University of Pennsylvania, School of Medicine, 1878; graduate pharmacist, and one of the first druggists to open a store on the Boardwalk, Atlantic City; aged 76; April 7.

James S. Dougal, M.D., of Philadelphia (formerly of Milton); University of Pennsylvania, School of Medicine, 1893; medical officer of the John Wanamaker Foundation; aged 55; March 21, at the Jewish Hospital, of pneumonia.

Lewis W. Flinn, M.D., of Wilmington, Del.; Jefferson Medical College, 1883, and Hahnemann Medical College and Hospital of Philadelphia, 1887; chief of the surgical staff of the Homeopathic Hospital; aged 67; April 4, of heart disease.

Jacob G. Zern, M.D., of Lehighton; University of Pennsylvania School of Medicine, 1868; Civil War veteran; former state senator and representative; local surgeon of the Lehigh Valley Railroad for more than thirty years; aged 81; March 20, of arthritis.

Theodore J. Gramm, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1881; member of the staff of the Women's Homeopathic Hospital, and founder of the Belmont Hospital of the Salvation Army, both in Philadelphia; aged 65; April 9, of heart disease.

James H. Closson, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1886; formerly on the staff of St. Luke's Hospital; senior member of the American Institute of Homeopathy, and a former secretary of the Homeopathic Institute of Pennsylvania; aged 63; March 26.

Charles H. Gubbins, M.D., of Philadelphia; Medico-Chirurgical College of Philadelphia, 1888; former professor of pharmacy at the Medico-Chirurgical School of Pharmacy; pharmacist and senior member of the Colonial Drug Company; served on the medical and

pharmaceutical staffs of the Philadelphia College of Pharmacy and the Wills Eye Hospital; aged 72; April 16.

William R. Fisher, M.D., of Swiftwater; Columbia University College of Physicians and Surgeons, New York; formerly chief of staff of Bellevue Hospital, and later superintendent of the Inebriate Asylum, Ward's Island; later settled in Hoboken, N. J., where he was chief of staff of St. Mary's Hospital, medical officer of the Hoboken Ferry Company, North Hudson County Railway Company, Morris and Essex division of the Lackawanna Railroad, and also of the Holland-American and Scandinavian-American Steamship Line; in 1901 became associated with Dr. Richard Slee in the Slee Laboratories; aged 82; March 28.

John F. Spearman, M.D., of Sharon; College of Physicians and Surgeons, Baltimore, 1912; served during the beginning of the World War with the American Red Cross, later being in charge of a large government hospital in the South; discharged from the Army in 1920 and given the rank of major in the Medical Reserve Corps; member of the surgical staff at the Chicago Lying-in Hospital, under Dr. J. B. de Lee, for the past seven months; member of the American College of Surgeons; aged 37; recently, in the Blatz Hotel, Milwaukee, Wis. Dr. Spearman had been in ill health, and a quantity of drugs found beside his bed indicated that he had taken his own life.

Edward A. Weiss, M.D., of Pittsburgh; University of Pittsburgh School of Medicine, 1900; assistant professor of gynecology at his alma mater; member of the American Association of Obstetricians, Gynecologists, and Abdominal Surgeons and the Associated Anesthetists of the United States and Canada; on the staffs of the Roselia Maternity, Magee, Presbyterian, and Mercy hospitals, and chief of staff of St. Paul's Roman Catholic Orphan Asylum; served during the World War; aged 48; March 24, at Honolulu, Hawaii, following an infection of the hand, contracted while performing an operation.

Births

To Dr. and Mrs. Allen H. Moore, of Doylestown, a son, April 9.

To Dr. and Mrs. John S. Eynon, of Chester, a son, February 28.

To Dr. and Mrs. Arthur Miltenberger, of Johnstown, a daughter, March 19.

To Dr. and Mrs. Gabriel Tucker, of Cynwyd, a son, Chevalier Jackson Tucker, March 13.

To Dr. and Mrs. Harold L. Bottomley, of Philadelphia, a son, Donald Lynn Bottomley, April 3.

To Dr. and Mrs. Harvey Bauman, of Champa, C. P. India, a son, Kenneth Garber Bauman, April 6.

To Dr. and Mrs. Frank Hammond Krusen, of Philadelphia, a daughter, Joan Elizabeth Krusen, March 23.

Engagements

The engagement of Miss Lois Hutchinson to Dr. H. B. Anderson, of Johnstown, was announced recently.

Announcement has been made of the engagement of Miss Madeleine Louise Owens, of Wilmington, Del., to Dr. Morton McCutcheon, of Philadelphia.

Dr. and Mrs. Augustus A. Eshner, of Philadelphia, have announced the engagement of their daughter, Miss Annette F. Eshner, to Mr. Paul David Dalsimer.

Dr. and Mrs. Levi Jay Hammond, of Philadelphia, have announced the engagement of their daughter, Miss Levina Sevier Hammond, to Mr. Frank Paul Kane of Radnor.

Dr. and Mrs. Williams B. Cadwalader, of Villanova, have announced the engagement of their niece, Miss Jessie F. Da Costa, to Mr. James Gamble of Philadelphia.

Dr. and Mrs. H. MacVeagh Brown, of Philadelphia, have announced the engagement of their daughter, Miss Hope Brown, to Mr. Gordon Bell Hattersley of Norwood, Ohio.

The engagement of Miss Katharine Burtnett Deakin to Mr. Hugh Maxwell Hamill, youngest son of Dr. and Mrs. Samuel McClintock Hamill, of Philadelphia, has been announced.

Announcement has been made of the engagement of Miss Margaretta L. du Pont, of Wilmington, Del., to Mr. Hallack Greenewalt, son of Dr. and Mrs. Frank L. Greenewalt, of Philadelphia.

Marriages

Miss Mary C. Sullivan to Dr. J. Marsh M. Alesbury, both of Philadelphia, April 24, 1926.

Miss Anna Marie Schellhase to Dr. William B. Clendenning, both of Waynesburg, March 31.

Miss Evelyn A. Mallen, of Conshohocken, to Dr. Hugh Cotter Boyle, of Philadelphia, April 10.

Dr. Sadi Baron and Dr. David M. Raskind, interns at the Harrisburg Hospital 1924-25, recently.

Miss Esther Wheeler to Dr. C. Stanley Holmes (dentist), son of Dr. Robert E. Holmes, of Harrisburg, April 16.

Miss Elizabeth Russell Evans Tucker, daughter of Dr. and Mrs. Henry Tucker, of Philadelphia, to Mr. George A. Armistead, April 19.

Miscellaneous

Hanford B. McGehee, a druggist, has been appointed a Civil Service Commissioner of Philadelphia.

Dr. Leo W. Hornick has been elected president of the staff of Mercy Hospital, Johnstown.

Dr. Patrick H. Walker, of Scranton, is now convalescing from an attack of pneumonia.

Dr. M. B. Ballard, of Troy, was recently appointed County Medical Director for Bradford County.

Dr. Robert P. Regester, of Bywood, has resigned as president of the Upper Darby Board of Health.

The sum of $1,000 was devised to the Woman's Medical College Hospital, Philadelphia, by Miss Lucy K. Kille.

More than $5,000 has been expended during the year for the benefit of crippled children by the Woman's Club of Philadelphia.

According to the will of Mary G. Schofield, the Frankford and Episcopal Hospitals of Philadelphia are each bequeathed $5,000.

The First International Orthodontic Congress will be held at the Hotel Commodore, New York City, August 16 to 20, 1926.

Dr. and Mrs. Charles A. O'Reilly, of Devon, have returned to their home from a cruise to the West Indies and South America.

Dr. Richard P. Strong, of Harvard University, has been selected to take charge of the work of the Gorgas Memorial at Panama.

Dr. J. C. Latham, of Pittsburgh, was acquitted by a jury, March 19, of a charge of having performed an illegal operation on Mrs. Amanda Roth.

Dr. R. M. Toll, of Scranton, sailed the latter part of March for Vienna to take a year's postgraduate work in gynecology and obstetrics.

The eighty-second annual convention of the American Institute of Homeopathy will be held in Philadelphia during the week of June 26.

DR. EDMUND B. PIPER, of Philadelphia, was badly shaken up recently when his automobile collided with that of a negro man who was driving recklessly.

THE NEXT MEETING of the American Dental Hygienists' Association will be held in conjunction with the American Dental Association in Philadelphia, August 23 to 27, 1926.

DR. J. NORMAN HENRY, ex-president of the Medical Society of the State of Pennsylvania, is one of three nominees for the office of Trustee of the University of Pennsylvania.

A LARGE INCREASE in the number of alcoholic deaths and cases treated in the Hahnemann Hospital, Philadelphia, is shown in the annual report of the Hospital, recently issued.

DR. W. R. KRAUSS, of Philadelphia, for six years medical officer at the local U. S. Veterans' Bureau of that city, has resigned in order to devote his time to private practice.

DR. FRANCIS EDWARD STEWART, of Philadelphia, was tendered a testimonial dinner, March 23, by the faculty of the Philadelphia College of Pharmacy and Science, and friends.

THE BOARD OF INCORPORATORS of the Woman's Medical College, Philadelphia, recently met to formulate plans for the erection of a new college building in Germantown.

DR. MILTON M. ROSENBERG, who has been doing postgraduate work in ear, nose, and throat at Vienna and other European medical centers, has returned to Scranton to practice his specialty.

TEN THOUSAND DOCTORS are unemployed in Russia. Of these 6,000 are graduates from Soviet medical schools in 1923-24. Sixty per cent are women. These facts are revealed in a Government census report.

DR. CHARLES E. BEURY, President of Temple University, Philadelphia, has announced that the University will launch a $20,000,000 drive. According to the plans, $2,000,000 will be allotted to the School of Medicine.

DRS. WESTON D. BAYLEY AND GEORGE W. MACKENZIE, of Philadelphia, were elected president and first vice-president, respectively, at the annual convention of the American Stomatological Association held recently.

THE PHILADELPHIA HEART ASSOCIATION was addressed on April 27 by Dr. Paul D. White of Boston, Mass., on "The Prognosis of Angina Pectoris and Coronary Thrombosis," based on a study of 200 cases.

DR. E. V. MCCOLLUM of the School of Hygiene and Public Health, of Johns Hopkins University, gave a lecture at Temple University, Philadelphia, April 15, on the latest developments in the field of nutrition.

THE NATIONAL ASSOCIATION OF RETAIL DRUGGISTS will hold its annual convention in Philadelphia, September 20 to 24. The medical profession should insist upon its pharmacy confreres taking a vacation at this time.

A BASKET-BALL TEAM representing the Jefferson Medical College and the University of Pennsylvania Medical School met in annual contest for a benefit fund which was divided between the hospitals of these medical schools.

THE WORLD CONFERENCE ON NARCOTIC EDUCATION will be held in Philadelphia, July 5 to 10, 1926, with headquarters in the Bellevue-Stratford Hotel. The delegates are to represent governments, organizations, and institutions.

A MARBLE STATUE of Dr. Crawford W. Long, of Georgia, was unveiled recently in the Hall of Fame of the United States Capitol to commemorate the eighty-fourth anniversary of his discovery of the efficacy of ether as an anesthetic.

DURING THE MONTH OF MARCH, about 12,000 cases of measles were reported to the State Department of Health, and of these, approximately 2,600 were in the rural districts. In many places the schools were closed in an effort to halt the spread of the disease.

A CAMPAIGN TO RAISE $200,000 for the construction of a home for children as a unit of the River Crest Tuberculosis Preventorium at Mont Clare was recently begun. The new home is being planned to accommodate eighty children predisposed to tuberculosis.

AT THE DALLAS MEETING of the American Medical Association Dr. Jabez N. Jackson of Kansas City, Mo., was elected president-elect. The registration totaled 4,350, with 85 representatives from Pennsylvania. The Association will meet in Washington, D. C., next year.

DR. CHARLES ROOT TURNER, dean of the School of Dentistry in the University of Pennsylvania estimates an attendance of between 10,000 and 12,000 delegates at the huge dental congress to be held at the Sesquicentennial in Philadelphia from August 23 to 27 inclusive.

THE LESLIE DANA MEDAL for the most outstanding achievement in the prevention of blindness and the saving of sight will be awarded this year to Miss Louisa Lee Schuyler, of New York City, as announced by the National Committee for the Prevention of Blindness.

DURING THE FIRST THREE MONTHS of 1926, 74 children died in Philadelphia from measles—more than the number of deaths from either typhoid fever or smallpox during the entire year of 1925. Approximately 150 cases of the disease were reported to the Bureau of Health each day.

ON THE EVENING OF MARCH 29TH, Dr. Marie Formad, senior charter member of the Woman's College Hospital, Philadelphia, was tendered a testimonial banquet by the members of the board and staff of the Hospital. The occasion was the completion of forty years as a member of the staff.

THE ALLEGHENY COUNTY MEDICAL SOCIETY is considering the purchase or lease of a permanent home, and the committee in charge appointed by the Board of Directors have sent a questionnaire to all the members of the Society asking that they express their views on the matter.

THE NEW YORK UNIVERSITY will conduct a special postgraduate summer course in regional anesthesia, as applied to general, traumatic, orthopedic, dental, and oral surgery; also to urology, gynecology, and otolaryngology. This course will be given by Dr. Gaston Labat, from June 1st to 30th.

THE JULY ISSUE of *Medical Life* will be a stomatology number, devoted entirely to the "History of Stomatology," by Dr. A. J. Asgis, of New York. The issue will be profusely illustrated. There will also be a chapter by E. B. Hardisty on "Stomatologic Education in the United States in 1926."

THE CHURCHES, motion-picture theaters, and school at Oxford, Pa., were closed April 23d, as the health authorities took measures to stamp out a scarlet-fever epidemic. Boy Scouts on bicycles were placed on the streets to enforce the edict that the 400 children released from school stay within their homes.

BEGINNING IN MAY, the Philadelphia County Medical Society will conduct weekly "seminars" on Fridays at 4 p. m. The idea is not the presentation of original papers, but rather the discussion of selected topics, as requested by the members in attendance. For the opening meeting, physiotherapy has been selected.

SIX MEMBERS OF THE HOUSEHOLD of Dr. J. D. Leebron of Philadelphia, including himself, were affected by escaping gas. All made a good recovery. The fumes were escaping from a gas heater in the cellar,

which was connected with the hot-water-heating system. The pilot light went out, and the fumes filled the house.

UNIONTOWN HAD THE highest urban birth rate in Pennsylvania in January (44.4 per 1,000 population, figured on an annual basis), and Cheltenham Township, Montgomery County, the lowest (9.5). The highest death rate was reported from Pottsville (28.3 per 1,000 population, on an annual basis), and the lowest from Donora (5.6).

GIFTS AMOUNTING TO $29,000 hav been made to New York University and Bellevue Hospital Medical College during the current year for use in various departments. Through the offices of Dr. Samuel A. Brown, dean of the medical college, R. T. Crane, Jr., of Chicago, has for the second year given $4,000 for the study of asthma in children.

THE BOARD OF HEALTH OF PHILADELPHIA has inaugurated a campaign to immunize all school children of that city against diphtheria. Every child whose parents will consent will be given the treatment. Vaccination will not be compulsory following the Schick tests, but it is hoped by this means to awaken parents to the danger to the child which comes from susceptibility to the disease.

THE SCHOOL OF MEDICINE, University of Pittsburgh, will give a two weeks' postgraduate course devoted to the interests of the general practitioner, beginning June 1, and a third week of laboratory instruction in simple methods to those interested. Considerable time will be devoted this year to the study of diseases of the cardiovascular system. An outline of the course will be mailed on request.

THE PHYSICIANS' WIVES' LEAGUE of Greater New York held its first social event in the form of a luncheon at the Commodore Hotel, April 13. The object of the newly formed society is spiritual and mental aid to its members, and financial help to the widows and children of physicians. Mrs. Rose Climenko is president of the society.

ALTHOUGH SHE HAD MADE an oral request to be cremated, the body of Krao Farin, "The Missing Link" of the circus side show, was buried. Health-department rules required burial in the absence of a written request. Krao's request for cremation was made, friends said, to prevent the possibility of her hairy body being exhibited after death. She died of influenza.

A COMMITTEE OF 100 has been appointed by Director Krusen of the Philadelphia Department of Health to have charge of Philadelphia's Child Health May Day. It is expected that the day will extend over a period of a week, during which churches, schools, and clubs will assist in placing the matter of good health for very young children and children of school age before the public.

THE CITY OF PHILADELPHIA observed Health Day on April 8th. The program featured health addresses in various parts of the city during the day, and in the evening, Dr. Harvey W. Wiley addressed the Philadelphia Forum on the subject, "Living Longer—How It Can Be Done." Health lectures were given in various industrial plants, and exercises were held in all of the high schools and junior high schools of the city.

AT THE ANNUAL MEETING of the Delaware State Board of Health held in Dover, April 7, the following officers were elected for the year: President, Dr. W. P. Orr, Lewes; vice-president, Mrs. Charles Warner, Wilmington; secretary, Mrs. Harlan Huston, Seaford; and Roland E. Erdman, bacteriologist. During the session of the board, plans for the prevention of diphtheria throughout the State were discussed.

A COMBINED MEETING of the Section on Public Health and Industrial Medicine of the College of Physicians of Philadelphia and the Philadelphia Pediatric Society was held on April 19. The speaker was Sir Arthur Newsholme, whose subject was "Some Remaining Problems in Maternity and Child Welfare." Previous to the meeting he was tendered a dinner at the Penn Athletic Club by about thirty-five Philadelphia physicians.

ENOCH SEARS, colored janitor of Dr. B. B. Vincent Lyon's private hospital, Philadelphia, ran amuck recently and was subdued only after five policemen surrounded him. In the combat the hand of one officer was bitten by Sears, and another suffered a broken arm. Dr. Lyon had previously urged the intoxicated man to desist, but narrowly escaped being hit by a platter when he began hurling dishes and other kitchen crockery.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY is planning a course for the instruction of physicians in making thorough physical examinations. This course will be opened in the new home of the Society, and it is expected that more than two hundred physicians will attend. A second postgraduate course for physicians, intended to review the knowledge of the medical practitioner which he may have forgotten, will be included in the program of the organization.

A CAMPAIGN TO RAISE $200,000 with which to endow the Edwin Tyler Darby Chair of Operative Dentistry at the University of Pennsylvania was launched March 31 at a reception tendered Dr. Darby by the faculty of the School of Dentistry and the Dental Alumni Society of the University in the Evans Institute. More than 200 alumni and faculty members attended the reception, which marked the forty-eighth anniversary of Dr. Darby's election to the Chair of Operative Dentistry.

ADVOCATES OF BIRTH CONTROL met defeat at the seventh annual convention of the National League of Women Voters held in St. Louis, Mo., April 15. The delegations from New Jersey and New York pledged to birth control, and some delegates from Connecticut and Vermont drafted a resolution asking that a birth-control study be provided in the coming year's agenda of the League's committee on child welfare. The resolution was considered behind closed doors and rejected.

THE INITIAL ISSUE of the *Medical Veteran* has appeared as of April, 1926, will be published quarterly, and will be the organ of the Medical Veterans of the World War. This publication will devote itself largely to the personal history of those who served in the Medical Corps of the Army during the World War. Subscriptions, with annual subscription of $1.00, should be sent to the Assistant Secretary, Medical Veterans of the World War, 532 West Main Street, Louisville, Kentucky.

TWENTY-SIX MEMBERS OF THE STAFF of the Department of Dermatology of the Vanderbilt Clinic and the College of Physicians and Surgeons of Columbia University, New York, resigned in April, because Dr. Joseph G. Hopkins, a dermatologist with much experience in scientific research, was advanced over Dr. George M. MacKee, senior member of the department, to fill the vacancy caused by the death of Dr. John A. Fordyce. This is another instance where the research worker was advanced over the clinician.

DAYLIGHT SAVING.—Beginning April 25, the entire states of Rhode Island and Massachusetts will observe daylight-saving time. It is being locally observed in New York, New Jersey, Connecticut, Maine, Pennsylvania, Delaware, West Virginia, Kentucky, Ohio, Indiana, Illinois, Michigan, and Wisconsin. The same states and cities that conformed to the plan last year will put daylight-saving schedules into effect about the same time this year. In Pennsylvania, Philadelphia and Pittsburgh, and in Delaware, Wilmington, are observing daylight saving.

"VANISHING PARTIES" are being held in Philadelphia by wives and daughters of physicians in an effort to raise $109,600 for the Gorgas Memorial. The first

luncheon was given at the home of Mrs. Pascal B. Bland. The plan stipulates that eight guests shall be entertained at the first luncheon, and each of the eight is to entertain seven other guests at subsequent luncheons, and so on. Each guest at this endless chain of luncheons will subscribe one dollar to the fund. Bridge parties and other forms of entertainment may be arranged by the hostesses at their discretion.

Special Course in Stomatology for Dentists and Physicians.—The American Stomatological Association in coöperation with the faculty of the Post-graduate Medical School of Stomatology at New York City announce a special course of ten lectures for graduates in dentistry and medicine in "Stomatology and Focal Infection" to begin October, 1926. The classes will be limited in number, and students will be registered in the order in which their applications are received. For information, address the Registrar, Post-Graduate Medical School of Stomatology, 135 Elliot Place, New York City.

The first step in a program to rid the Delaware River of much of the pollution that contaminates the Philadelphia water supply obtained through the Torresdale intake, was taken by the Department of Public Works recently, when bids were opened for construction of a 300,000,000-gallon pumping system at the Northeast Sewage Disposal Plant. The system will cost about $700,000. The State Department of Health has been prodding the city government for some years to speed a sewage-disposal program to rid both the Delaware and Schuylkill Rivers of their pollution.

Further spreading of measles and chickenpox resulted in the closing of twelve schools in one week in Montgomery County. More than twenty-five cases of chickenpox were discovered in Cheltenham township, where the epidemic had its apparent outbreak. The total number of children temporarily deprived of schooling was 7,000. In issuing the closing order, Dr. Joseph A. Brooke, township health officer, said that all children under fifteen would be forbidden in public places, and that, except in cases where absolutely necessary, they are not to leave their homes.

American Dental Assistants' Association.—The second annual meeting of the American Dental Assistants' Association will be held in Philadelphia, August 19, 20, and 21, 1926. Plans are being perfected for a very interesting and enjoyable meeting. Prominent members of the dental profession will address the various sessions. Clinics and papers will be given by the members of the Association, and there will be an annual luncheon with prominent guests and an interesting program. All dental assistants are urged to plan their vacation so as to visit Philadelphia at that time and attend the meeting.

A course for the training of teachers of sight-saving classes will be given again this year at the University of Cincinnati during the summer session. A new course in advanced eye work will also be offered by special request. These courses will open on June 21 and continue for six weeks, classes meeting daily throughout the period. The courses include the following: Theories and methods of supervision and organization of sight-conservation classes; theory and methods of teaching sight-saving classes; and courses in elementary and advanced eye work.

Medical Exhibit at Sesquicentennial Exposition.—The board of directors of the Sesquicentennial Association, Philadelphia, has appropriated $250,000 for the medical exhibition. The exhibit will include all phases of the scientific treatment of the sick, and will cover 15,000 square feet of floor space. There will be a model sanatorium and separate sections dealing with the medical specialties, the progress of medical education, the recent medical discoveries, and a pharmacy exhibit, and a dental display. Prominent physicians will be in charge of the sections.

Patient Sues.—A Philadelphian has brought suit for $25,000 against a nonmedical attendant. In the statement of claim filed by the attorney, the plaintiff sets forth that on January 9 last he had a pain in the upper part of his left leg, for which he went to the defendant for treatment, and the latter, by his agent, advised that he take violet-ray treatment. The plaintiff exposed his body to the violet-ray treatment, with the result that the flesh and tissues on and around the upper part of his leg and his left kidney were severely burned, and affected so that he was compelled to seek treatment by a competent surgeon. He alleges that his injuries are of a permanent nature.

The new Hatfield Memorial Home, located at Wagontown, Chester County, was opened early in March. It was established by funds left by the late Mrs. Mary Florence Hatfield, and is intended as a resting place for convalescents from Chester and Lancaster counties. No guests are admitted who have not been residents of either of these two counties for at least six months prior to the date of admission. To date more than $200,000 has been expended in equipment. No charge is to be made for admission or treatment. After being open for more than a week with a full corps of attendants and medical men, the home was without a patient or a prospect of one, according to Miss Vivian Isham, who is in charge.

Eighty cases of typhoid fever were listed in New Milford. Several of those who were seemingly improving have had relapses. A consoling feature is the coöperation between the Red Cross and the State Health Department. Miss Alice O'Halloran, supervisor of State nurses, is supervising their work and Miss Helen Erskine, chief nurse of the Red Cross of Pennsylvania, and Mrs. Lena Sturdevant, Red Cross nurse for the western part of Susquehanna county, are supervising the eight Red Cross nurses now at work there. Financial help has been given by the Red Cross, the Masons, and business men of Montrose, Pomona Grange No. 7, and individuals. The women of Montrose have worked evenings to make pads and supplies, and have sent broth over to their neighboring town.

The unusual case of a father seeking to collect $20,000 damages from his son for injuries received by the parent and for the death of his wife, the defendant's mother, because of negligence of the son in the driving of an automobile, was recently heard in the Common Pleas Court in Philadelphia. The plaintiff was Dr. Henry P. Lorman, of Philadelphia. No ill feeling was apparent between the father and son and the lawyers, and it was learned at the conclusion of the trial that the son carried $20,000 in automobile insurance, which, under the law, could not be mentioned to the jury. Two separate suits were filed by Dr. Lorman in which $15,000 was asked for his own injuries, and $5,000 for the loss of his wife's companionship. They had been married fifty years. The jury refused to allow any damage award to the father.

To help in the toxin-antitoxin campaign for the eradication of diphtheria, the Metropolitan Life Insurance Company has produced a motion picture entitled "New Ways for Old," which will be sent free, except for transportation charges, to health organizations or associations desiring it. There is every reason to believe, from the showings that have already taken place, that this film will be of real value in influencing parents to have their children immunized. Local managers and their agents will be glad to coöperate in arranging for meetings by announcing the showing of the film to the families which they visit. Application for use of the film should be made as far in advance as possible to the Welfare Division, Metropolitan Life Insurance Company, 1 Madison Avenue, New York. Other films available for free distribution by the Company are "Working for Dear Life" and "One Scar or Many." Dodgers, posters, pamphlets, news stories, and speech outlines will also be supplied by the Company on request.

THE ALUMNI SOCIETY of the School of Dentistry of Temple University (the Philadelphia Dental College) held its sixty-third reunion in Philadelphia April 21st, with about 300 in attendance. Dr. Herbert L. Wheeler, of New York City, in an address pertaining to dental education, stated that dental schools will turn out better dentists if they place more emphasis on the scientific rather than on the technical training of their students. Dr. Wheeler advocates a two-year predental course, with three years at dental school, instead of the "one-four" plan, or one year predental and four years in a dental school. The latter plan is favored probably by the majority of dentists. Clinic day was eminently practical, the clinic exciting the greatest interest, possibly, being that conducted by Dr. G. C. Tassman, who demonstrated the preventive work now being done to preserve the teeth of children from decay and distortion. Dr. Otto E. Inglis, of Philadelphia, was elected president for the ensuing year. The session closed with the annual dinner.

MR. GEORGE S. COX, banker and haircloth manufacturer of Philadelphia, who died on March 18, left an estate of several million dollars. Virtually all of the estate will eventually be used, under the terms of Mr. Cox's will, "to discover a cure for diabetes," or for some other branch of medical research. Within ten years after his widow's death the executors are "to transfer his property, both personal and real, to a fund to establish a research bureau, first to discover a cure for diabetes, and also any other avenue of medical research that the medical director may in his judgment think best." Dr. Levi J. Hammond, Philadelphia, who is also one of the executors and trustees under this will, "is appointed director of the research bureau, with full power to act and also with power to appoint his successor, either by personal appointment or by will, and the said appointee and successive appointees to have the same power of managing the research work and also the same power of appointing their successor either by personal appointment or by will."

DR. S. LEWIS ZIEGLER, Philadelphia, who died January 4, bequeathed $5,000 in trust to the College of Physicians, Philadelphia. His will, recently probated, directs that the income from the trust fund "shall be applied to the purchase of ancient and modern ophthalmological works and models for an ophthalmological museum, containing a rare, complete, and interesting collection of materials, available to historian, student, and practitioner." Dr. Ziegler also bequeathed his medical library to the College of Physicians, with the stipulation that the library shall go to his son, S. Lewis Ziegler, Jr., should he decide to become an eye specialist. Under another provision in the will, Bucknell University, Lewisburg, Pa., received a $2,000 trust fund. The income from that fund is to be applied to the annual payment of four prizes of $25 each to students excelling in designated college work. Presentation of those prizes annually was begun by Dr. Ziegler in April, 1924. They are to be awarded to the senior-class students excelling in premedical work, the junior-class students excelling in conversational French, English composition, and literature, and the freshman-class student excelling in spelling and penmanship.

DEDICATION OF NEW HOME PHILADELPHIA COUNTY MEDICAL SOCIETY.—The new home of the Philadelphia County Medical Society, 21st and Spruce Streets, was dedicated on April 20th. The afternoon exercises, held in the auditorium, were in charge of Dr. Frederick S. Baldi, Chairman of the Committee on Dedication. On the platform were grouped twenty-four past presidents of the county society, and the president, Dr. Ira G. Shoemaker, Reading, and president-elect, Dr. Harry W. Albertson, Scranton, of the State Society. The invocation was given by Chaplain Curtis H. Dickens, Captain, U. S. N.

Dr. Arthur C. Morgan, during whose presidency in 1925 the acquisition of the new home was consummated, presented the spade used by him in the ground-breaking, and Dr. I. P. Strittmatter, chairman of the Committee on Building, presented the deed of property and key of the new home, which the president, Dr. Moses Behrend, accepted in the name of the county society.

Complimenting the society on the acquisition of its own home, Dr. Shoemaker said that "Pennsylvania has the largest number of component-medical-society homes in the United States."

Dr. Albertson said that the acquisition of its own home by the society "is a step in cementing the bond of fraternalism."

The final dedicatory exercises were held in the evening, the president, Dr. Moses Behrend, presiding. In his adress, Dr. Behrend gave a sketch of the county society. In naming several of the past presidents, he noted their character, and the influence they had on the activities of the society, and on the medicine and surgery of their respective periods. He commended the library, and hoped it would be of much use to the members. Reference was made to the activities of the society, past, present, and looking to the future. Attention was called to the grill in the basement of the new home, where members will be encouraged to gather to form acquaintances, and where opportunity will be afforded for informal discussions.

The main address was by Dr. W. W. Keen, who, though present, was unable to deliver his address on account of a laryngeal disturbance. The address dealt with the trials and accomplishments of the practice of medicine in former days, in comparison with the present era, and was read by Dr. L. J. Hammond.

Dr. A. C. Morgan cited some of the difficulties presented and overcome, in procuring the new home.

Mrs. Frederick S. Baldi presented to the society, a very handsome silk American flag, which was accepted by President Behrend. The "Star Spangled Banner" was rendered, while a bugler from the Philadelphia Navy Yard sounded "taps" for the members of the county society who made the supreme sacrifice during the World War.

Chaplain Dickens read communications from the Army and Navy departments, noting the fatalities and injuries among physicians during the war. This was followed with prayer by the chaplain.

Dr. James M. Anders gave a history of the new home, and referred to several earlier attempts to procure a home, detailing the reasons for the failures.

Following the rendition of two vocal solos, addresses were made by the following invited guests: Dr. Hobart A. Hare, president of the College of Physicians; Hon. Horace Stern, president judge of Common Pleas Court No. 2; and Mr. Isaac Hassler, Secretary of the Law Association of Philadelphia.

The out-of-town guests in the evening were President Shoemaker and President-Elect Albertson of the State Society, and Dr. Lewis H. Taylor, of Wilkes-Barre.

Following the evening exercises a buffet luncheon was served in the grill room.

The evening of April 21st was Ladies' Night, which was devoted to an exceptional musicale, the exhibition of motion pictures of the dedication exercises of the previous afternoon, and a dance.

BOOKS RECEIVED

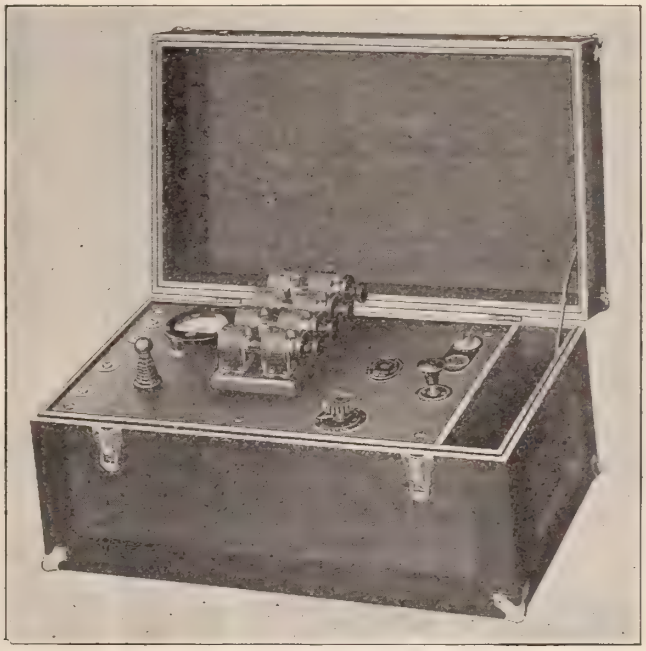
THE ROCKEFELLER FOUNDATION. Annual Report for 1924. 61 Broadway, New York City.

DISEASES OF THE NEWBORN. By John A. Foote, M.D., Professor of Diseases of Children, Georgetown University Medical School. Octavo of 230 pages. 85 illustrations. Philadelphia and London: J. B. Lippincott Company. Price, $5.00.

MODERN METHODS OF AMPUTATION. By Thomas G. Orr, A.B., M.D., F.A.C.S., Professor of Surgery, Uni-

(Concluded on page xiv.)

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(Concluded from page 586.)

versity of Kansas. 125 illustrations. St. Louis: The C. V. Mosby Company, 508 N. Grand Boulevard. Price, $3.50.

FIELD OPERATIONS —A History of the Medical Department of the United States Army in the World War. By M. W. Ireland, Major General, the Surgeon General. Vol. VIII. Washington: Government Printing Office, 1925.

SIXTY YEARS IN MEDICAL HARNESS. By Charles Beneulyn Johnson, M.D. Introduction by Victor Robinson, M.D. Vol. I of The Library of Medical History. New York: Medical Life Press, 12 Mt. Morris P'k, West. Price, $3.00.

THERAPEUTICS, MATERIA MEDICA, AND PHARMACY. By Samuel O. L. Potter, A.M., M.D., M.R.C.P. Lond. Fourteenth edition. Revised by R. J. E. Scott, M.A., B.C.L., M.D., New York. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price, $8.50.

HYGIENE AND SANITATION. By Seneca Egbert, A.M., M.D., Dr.P.H., Professor of Hygiene, University of Pennsylvania. Eighth edition, enlarged and thoroughly revised. Illustrated with 154 engravings, and 4 plates. Philadelphia and New York: Lea & Febiger. Price, $4.00.

THE SURGICAL CLINICS OF NORTH AMERICA. Vol. VI, Number I. Philadelphia Number—February 1926. 325 pages with 136 illustrations. Per clinic year (February 1926 to December 1926). Philadelphia and London: W. B. Saunders Company. Price, paper $12.00; cloth, $16.00 net.

HANDBOOK OF DISEASES OF THE RECTUM. By Louis J. Hirschman, M.D., F.A.C.S., Professor of Proctology, Detroit College of Medicine. 403 pages with 252 illustrations, mostly original, and 5 colored plates. Fourth edition revised and rewritten. St. Louis: The C. V. Mosby Company. Price, $6.50.

GOULD AND PYLE'S POCKET CYCLOPEDIA OF MEDICINE AND SURGERY based upon the fourth edition of Gould and Pyle's Cyclopedia of Practical Medicine and Surgery. Third edition revised, enlarged, and edited by R. J. E. Scott, M.A., B.C.L., M.D., New York. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. Price $2.50, and with thumb index $3.00.

OCCUPATION VERSUS RESTRAINT. A History of the Passage of Two Bills Through the Massachusetts Legislature. By L. Vernon Briggs, M.D. Boston: Wright & Potter Printing Company, 32 Derne Street. BETTERMAN II ON THE BUSINESS OF MEDICINE. By Charles Elton Blanchard, M.D. Youngstown, Ohio: Medical Success Press.

YOUNG'S PRACTICE OF UROLOGY. Based on a study of 12,500 cases. By Hugh H. Young, M.D., and David M. Davis, M.D., Johns Hopkins University. With the collaboration of Franklin P. Johnson. Two octavo volumes totaling 1,484 pages with 1,003 illustrations, 20 being color plates, by William P. Didusch. Philadelphia and London: W. B. Saunders Company, 1926. Per set: Cloth, $25.00 net.

UNITED STATES NAVAL MEDICAL BULLETIN. Published for the Information of the Medical Department of the Navy. By Lieutenant Commander L. Sheldon, Jr., Medical Corps U. S. N. Issued by the Bureau of Medicine and Surgery, Navy Department. Price, yearly subscription, beginning January 1, 75c; for foreign subscription add 35c for postage. Subscriptions should be sent to Superintendent of Documents, Government Printing Office, Washington, D. C.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our

(Concluded on page xvi.)

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BOOK REVIEWS

(Concluded from page xiv.)

profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

PRACTICAL HELPS IN THE STUDY AND TREATMENT OF HEAD INJURIES. By Adolph M. Hanson, M.D., formerly neurosurgeon to Evacuation Hospital No. 8, A. E. F. Pp. 109, with 91 illustrations. Cloth, price $3.00. Boston: Richard G. Badger, 1925.

The author states in his preface that his little volume is intended to be merely an aid to the general practitioner, and that his work must necessarily be of a brief and elementary character. The first three chapters deal with anatomy, and contain several valuable reminders. The next three deal with injuries of the scalp, skull, and brain, and suggest, in epitome, the standard treatments of these lesions. There is a separate chapter on gunshot wounds, which is up-to-date. The concluding chapter deals with the costochondral graft, in which the author's technic is given. The illustrations are distinctly helpful.

The work does not contain anything that is new, and the treatment outlined is standard, but it does fulfill its mission of being a brief, elementary, practical help in its field. Such a work, however, is sometimes needed in moments of great haste, and this volume lacks distinctly in accessibility, in that it has no index, the cross references are too indefinite, and there are no italics, bold-faced type, or other aids to the ready finding of the particular point wanted. In places, the text itself is too sketchy. Bearing in mind the purpose of the author, however, the book merits a wide reading among general practitioners.

MEMORANDA OF TOXICOLOGY. Partly based on Tanner's Memoranda of Poisons. By Max Trumper, B.S., A.M., Formerly Lecturer on Toxicology, Jefferson Medical College, Philadelphia. P. Blakiston's Son & Co., 1012 Walnut St., Philadelphia. Price $1.50.

This is a very valuable little booklet, containing a wealth of useful information in concise form. The arrangement of the various poisons according to their physiologic action, such as narcotics, deliriants, convulsants, etc., deserves a great deal of credit, because it enables the physician who is suddenly confronted with a case of poisoning to look for information according to the symptoms presented by the patient.

The test for methanol is a very useful addition to a book on toxicology at the present time, when cases of wood-alcohol poisoning are so frequent. The reviewer has used this test recently, and found it very satisfactory.

The book certainly deserves a place in the library of every practitioner of medicine.

POTTER'S COMPEND OF MATERIA MEDICA, THERAPEUTICS, AND PRESCRIPTION WRITING. With Special Reference to the Physiological Action of Drugs Based on the Tenth Revision of the *U. S. Pharmacopœia,* Including also Many Unofficial Remedies. By A. D. Bush, B.S., M.D., Professor of Pharmacology, Emory University. Ninth edition, revised. P. Blakiston's Son and Co., Philadelphia, Pa.

It is the same compend to which thirty years ago we turned eagerly at the eleventh hour before examination, but it has been brought up to date by the deletion of obscure and worthless remedies and the inclusion of the latest drugs. A true friend of the student, yet its compactness renders it of value to the physician for ready reference. A typographical error on page 158 attracted our attention: The term "physical" is used when "physiological" was intended.

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DIAGNOSIS AND TREATMENT OF HEMATURIA*†

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BALTIMORE, MD.

Cases of hematuria are seen in the practice of every branch of medicine, for there is a tremendous multiplicity of diseases in which it may occur. It may be of renal, ureteral, prostatic, or urethral origin.

The source of bleeding can often be ascertained by the simple three-glass test, in which the patient voids the urine into three glasses. This test will show at once whether the blood comes from above the external sphincter. If it comes from the pendulous urethra, it of course runs out at the end of the penis. If it comes from the bulbous urethra, and the quantity is small, it will remain there until washed out by the first urination; but if the amount is considerable, it will flow out over the elevation produced by the suspensory ligament, and will appear at the meatus. When bleeding occurs posterior to the external sphincter in the prostatic urethra, the blood, if small in amount, will simply collect in the posterior urethra, and will appear in the first glass; but if the quantity is more than enough to fill the prostatic urethra, it will flow back into the bladder because the internal sphincter is much weaker than the external sphincter, which prevents it from coming forward. The blood will, in such cases, appear in all three glasses of voided urine. In bleeding that occurs only at the end of urination, when the final act of micturition empties the prostatic urethra, the blood will appear only in the last glass. Blood that comes from the seminal vesicles may be discharged in the last spasmodic act of emptying the urethra, and appear in the last glass, or it may manifest itself only on ejaculation. Bleeding from a bladder ulcer also may occur in the last spasmodic effort of micturition which forcibly contracts the bladder, when the blood will be present in the last glass of voided urine. General bleeding from the bladder, from an intravesical prostatic lobe, or from a tumor, stone, or diverticulum, usually occurs between urinations, and the blood collects in the bladder and appears in all three glasses of urine. Blood from a ureter comes into the bladder, mixes with urine from the other side, and appears in all three glasses.

The three-glass test is equally important in studying pyuria, and many a supposed renal suppuration has been disproved by this method.

If blood is present in all three glasses, there is either bleeding from the prostate into the bladder or bleeding above the prostate. When it is found in the first glass only, the blood comes either from the bladder or from the prostatic urethra. When it is terminal, it may be from small ulcers of the bladder or from a hemorrhagic condition of the prostate.

Hematuria may also be due to various general conditions such as purpura, leukemia, typhoid fever, etc. Hemoglobinuria due to toxins may also occur. Differentiation between hematuria and hemoglobinuria is made (1) by the color, which is different in the two conditions; (2) by careful microscopic examination; and (3) if absolute certainty is desired, by the benzidin test or the spectrum test.

More interesting than the hematurias from general conditions are those associated with specific local conditions. The most perplexing, and those about which we know the least, are the so-called idiopathic hematurias, in which there is a bleeding kidney, almost always unilateral, and in which pathologic examinations usually fail to show anything abnormal. As a rule, pain is not present. Sometimes a clot will block the pelvis and give pain, but generally there is a continuous painless hemorrhage, which is unilateral and for which no cause can be found. I happened to remove one of these kidneys, owing to the fact that I unintentionally cut the ureter, and microscopic examination of the entire kidney, with sections made from many places, failed to reveal any abnormality whatever. Functional tests and careful study of the pelvis with the x-ray practically always show nothing at all. There have been one or two reports of a localized

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nephritis in small portions of the kidney, but this finding has been doubted by later workers. Unilateral localized nephritis is extremely rare, and seldom causes hematuria.

Space is lacking for a consideration of traumatic hematuria. Such cases were prevalent during the war, and are frequently seen in industrial surgery. Sometimes the injury cuts off the ureters, and the bleeding does not occur with the voided urine, but subcutaneously.

Calculus is a common cause of hematuria, although not so common as tuberculosis. In some cases a very large stone may not cause any bleeding, while in others, small passages of sand may be accompanied by hematuria. It is an interesting symptom, but not extremely important in such cases.

When blood which is present in the urine comes from the kidney, the cause should be ascertained as soon as possible, because the case may be one of incipient tuberculosis.

Tumors of the kidney also are associated with hematuria, depending on how much of the pelvis is involved. In carcinoma or papilloma involving the pelvis there may be severe hematuria, even with small tumors. If the tumor ulcerates into the pelvis and into the calyces, hematuria may be so extensive as rapidly to exsanguinate the patient.

Quite a few cases of aneurysm of the renal artery are reported in the literature. This disease is practically always traumatic, and has very few symptoms. Owing to the depth, the pulsating tumor usually cannot be felt, and diagnosis is practically always made at operation. Some of these patients have been cured by operation, so that the surgeon should bear in mind the possibility of such findings.

Hematurias associated with nephritis, pyelonephritis, pyelitis, or pyelitis cystica are especially interesting, and are difficult to differentiate from tuberculosis or calculus.

Nephroptosis is sometimes associated with hematuria. More interesting are those cases of infarction, described by Brewer, which are generally unilateral, and in which there is almost always hematuria associated with streptococcic or staphylococcic infection. Most cases of septic infarction are fulminating in character, and end fatally in a few days unless operated upon early.

In ureteral hematuria, trauma, tumor, tuberculosis, calculus, stricture, or infection may be the cause of the bleeding, and often the differentiation between kidney and ureter as the source is extremely difficult. It is only by the use of the cystoscope, ureteral catheter, plain x-ray, pyelogram, and ureterogram that an accurate determination can be made.

About the same conditions are responsible for bleeding from the bladder. Tumors of the bladder may produce fearful hematuria, and may be associated with such excessive clotting as to make urination difficult or even to cause complete retention of urine and great exsanguination of the patient. Ulcers of the bladder are rare except in tuberculosis and submucous cystitis. The hematuria associated with these ulcers is interesting because it is usually terminal.

Tuberculosis of the bladder is apt to be associated with hematuria, which again may be terminal due to the spasmodic effort of the bladder to empty itself. It is not, as a rule, so pronounced as in tuberculosis of the kidney, but may be extensive and lead to great loss of blood.

Stones and other foreign bodies may cause pronounced hematuria. One very interesting case was that of a young woman who complained of this symptom, and said she had felt a pricking sensation in her bladder for six months. This she felt sure was due to a needle she had swallowed seven years before. She gave a very good description of how the pain passed progressively down the abdomen. By means of the cystoscope, the needle was found sticking into the bladder.

Hematurias due to foreign bodies which have been introduced through the urethra furnish some of the most remarkable museum specimens.

Diverticulum of the bladder is sometimes associated with hematuria, but rarely. I have seen one case in which a tumor in a diverticulum bled profusely into the bladder.

Bleeding from the prostate is responsible for much hematuria. These cases may or may not be malignant. It is generally felt that carcinoma of the prostate is associated with hematuria more commonly than is hypertrophy, but our experience shows that it is not. A remarkable thing in carcinoma of the prostate is that the mucous membrane remains intact until late in the disease. It is not prone to ulcerate, and is not as often accompanied by hematuria as is benign hypertrophy.

Urethral hematuria may be traumatic, often due to the passage of an instrument, and may be caused by an indwelling catheter. The acute inflammations are not infrequently associated with hematuria. In acute gonorrhea, hematuria is usually terminal. Hypertrophy of the prostate is quite frequently associated with hematuria at one stage. Tuberculosis of the prostate is almost always associated with tuberculosis of the seminal vesicles, and not infrequently there is hematuria. Our experience shows that about 30 per

cent of tuberculosis of the kidney is associated with tuberculosis of the prostate—more than with tuberculosis of the epididymis.

Very interesting hematurias are due to conditions around the verumonatum. The blood may appear in the first urine, or it may be squeezed out at the last of urination. The bleeding may occur after sexual intercourse.

Tuberculosis of the urethra is extremely rare. The tubercle bacilli and pus may pass through the urinary tract for years without causing urethral lesions. Calculus of the urethra also is rare.

In women, of course, it is necessary to exclude the vagina at the menstrual period in studying hematuria; also to realize that a prolapsed condition of the vagina and bladder or an inflammatory condition of the genitalia may give rise to bleeding which may be thought to come from the urinary tract.

When confronted with hematuria, the first thing to do is to find the source. By means of the three-glass test, it is possible at once to make a rough diagnosis as to whether the blood comes from the anterior or posterior urethra or from the bladder. In the presence of bleeding, the functional tests are difficult. However, after getting the blood out, it is possible to make a pretty fair phthalein test. If it is evident that the blood comes from the urethra, the source can usually be determined by urethroscopic examination, and the treatment can then be applied at once—some styptic or caustic to stop the hemorrhage. Radium is often very efficient. If it is evident, however, that the bleeding is above the posterior urethra, the cystoscope provides an accurate method of knowing at once just where the blood comes from. In some cases, the bleeding is so pronounced that cystoscopy is difficult. It is well, on this account, for an irrigating cystoscope to have specially large water ways.

A year or two ago we had a case in which the patient was almost exsanguinated and the bladder distended with blood. It was impossible to wash the bladder clean, but we finally obtained a sufficiently good view of the bladder wall to find a little spurting artery to the right of the right ureter. It was possible, by means of electric cauterization (fulguration) to close the spurting vessel, and the hematuria ceased at once. On examination a few months later, a tumor about the size of a raspberry was found at the site of the bleeding artery.

When the ureter is found to be the source of bleeding, the greatest care should be taken not to traumatize the opposite side in carrying out bilateral catheterization.

Comparative tests of kidney function, as well as pyelograms, are of great value in diagnosis, and in determining the treatment to be employed.

In these preliminary examinations, especially when blood is found coming from the urethra or bladder, radium may be used at once as a styptic to stop the bleeding. It is remarkable how its application in the posterior urethra or bladder for a half hour will stop bleeding from a tumor. The use of high-frequency current and radium in many cases makes it possible to arrest the bleeding and build up the patient's strength until he can be operated upon more safely.

In cases of hematuria of long standing or when the patient is in extremis, transfusion of blood from a suitable donor very often results in stopping the bleeding at once. Horse serum may have the same effect, and drugs, administered intravenously and intramuscularly, will at times give results.

Essential hematuria is sometimes cured by the simplest means. The passage of a ureter catheter will sometimes be sufficient to stop the bleedings immediately. As a rule, however, such cases require extended treatment. Various things have been tried. Adrenalin 1 : 1,000 has been used in many cases with fair success, but 1- to 5-per-cent nitrate of silver injected into the pelvis often stops the hematuria at once.

In those other surgical conditions—tumor or tuberculosis of the kidney—it is best, if possible, to stop the hematuria by transfusion, and build up the patient. In tuberculosis of the urinary tract, radical operation should be done as early as possible. The use of tuberculin certainly is not justified, and the surgery should be as radical as possible in both renal and genital tuberculosis.

In tumors of the bladder, modern methods (fulguration, diathermy, and radium) have transformed the records, and suprapubic operation is no longer obligatory. A papilloma of the bladder was seldom cured by radical surgery. Now, with these simple methods, all such patients are cured. In infiltrating carcinoma, however, radical surgery should be carried out if possible, and if not, radium applications or implantations should be used.

In bleeding from an enlarged prostate, radium may be used effectively in the posterior urethra. I recently saw a case in which suprapubic cystostomy had been done for hematuria associated with enlarged prostate. This did not suffice to stop the bleeding, and prostatectomy had to be done. The bleeding then stopped.

Numerous slides were shown demonstrating various pathological conditions associated with hematuria.

PSYCHIC, NERVOUS, AND MECHANICAL FACTORS IN DIGESTIVE DISORDERS OF CHILDHOOD*

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The factors operating to produce alimentary disturbance in the child are of five types: (1) *Chemical factors*—in which the food as ingested, or as altered by digestion, is either insufficiently irritating, or too irritating to assure normal peristalsis. (2) *Inflammatory factors*—in which inflammations of bacterial origin, occurring in various parts of the tract, produce more or less marked symptoms, as in dysentery, typhoid fever, or appendicitis. (3) *Psychic factors*—in which the mind is operative in altering the secretory and motor functions. (4) *Nervous factors*—in which an organic or functional change of the nervous structures supplying the alimentary tract produces disorders varying in severity, duration, and sequelæ. (5) *Mechanical factors*—in which physical disturbance of normal function occurs, interference with proper ingestion, digestion, and absorption is present, and frequently there is interference with proper removal of the digestive residue.

It is the purpose of this paper to consider the psychic, nervous, and mechanical factors.

Psychic Factors

The most important of the psychic factors is habit. It is characteristic of many natural phenomena to occur in cycles or rhythms, or what we might speak of as habits. It is well known that most functions which are performed habitually become less difficult and less irksome. It is only natural to assume that the same will be true of the digestive functions, and experience bears out the fact that regular habits of eating, defecation, sleeping, and so forth, are of decided benefit to the organism.

The child readily lends himself to habit formation, just as readily to the formation of good habits as of bad ones. He is characterized by an intense eagerness to learn, and by an equally great lack of judgment as to whether what he learns is of benefit to him or to his detriment. Therefore, it is highly essential that the child be under the influence of some one who can carefully and understandingly exercise judgment for him. This person must decide for him which habits he shall keep and which he shall discard. It is often necessary to oppose the child's own inclinations quite vigorously, and to guide him into channels that will be for his good.

The type of habits which the child develops depends upon the wiseness, judgment, and experience of his parent, and also upon the ability of that parent to control him. A child cannot be directed into good habits unless his parent is able to command his respect and obedience; in fact, there must be mutual respect and mutual understanding between the two.

There are certain qualities which the child must respect in his parent. He must know that his parent loves him, and that the directions which she gives are not arbitrary, but are suggestions which, if followed, will be of easily appreciable benefit to him. He must respect the fact that his parent means exactly what she says, and that failure to observe her directions will invariably result in prompt and highly efficient punishment. The child must respect in his parent the quality of consistency; he expects this to a degree that few parents are able to attain.

The parent must respect in the child certain qualities which are characteristic of his tender years, and which some children never outgrow. She must respect the natural desire of the child for approbation, and the desire to hold the center of the stage. This is a positive quality in the child, and is not to be considered as a fault. The parent must direct this sense of importance into useful channels, and thus develop the sense of responsibility. She must respect in the child the quality of negativism, or contrariness, and know how to manage this. Often she will have to appear to want the exact opposite of what she really wants. The parent must respect the child's relative helplessness, and not expect too much of him. She must overlook many of his faults, and encourage him by praising his good qualities. Finally, she must respect the fact that the child, while he may seem to gauge most situations, very many times does not grasp affairs at all. This must be obviated on the part of the parent by making commands and instructions clear beyond possibility of misunderstanding.

In the absence of wise thinking and efficient control on the part of the parent, the child in many instances drifts into faulty food habits which are at the bottom of a great many of the digestive and nutritional disorders of childhood.

The influence of parents, however well meaning, is not always for their children's good. The woman who is overfatigued, who is affected by domestic infelicity, who is irritable and impatient, cannot help being hasty and thoughtless in her relations to the child, and cannot help re-

*Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

flecting her mental unrest in him. Mental unrest has a profound effect upon the child's secretory and motor functions. Stormy scenes, coaxing, nagging, scolding, an interminable succession of do's and don'ts often explain why a child will not fit himself in with the prescribed routine. We must remember that the child is an inexperienced person among experienced persons, and that failure to provide companionship with others of his own mental caliber is apt to put him under a strain.

Too few parents are aware of the value of suggestion in the direction of their children. Suggestion calls the attention to a certain thing or fact in such a way as to emphasize that fact and call out the child's thoughts to things external. Suggestion can not only make a thing more desirable or agreeable, but may make it equally undesirable or disagreeable. Suggestion often overcomes negativism; hence, it is sometimes better to suggest a thing than to give a direct command.

The most frequent symptom of psychic origin is anorexia. Those who practice among children are well aware of the great frequency of this single complaint, and know how very often no physical basis can be found for it. The women who bring these children to us usually have as a prime characteristic a defective control over them. They show their concern unreservedly before the child and talk volubly about him in his presence. The child usually listens attentively to the recital of his shortcomings, and often seems to be quite proud of them. As Cameron says, "He has a reputation to live up to."[1] The general impression the physician gets is that many words are wasted by the mother, and that little action is taken. Many of these mothers can be educated to see that the fault is their own. A very large number, however, are mentally incapable of doing this. This type of child, whom we cannot call especially abnormal, is difficult to treat in his home environment, but generally easy to treat in groups, where the psychology of the crowd and of the common ideal can be exercised.

Another and allied type of anorexia occurs under stress of mental excitement. Pleasurable or painful anticipation will often destroy the appetite of a child who is normally a good eater. A party, a picnic, a trip, a visit, the desire to get out to play, the fear of missing some event highly important in the child's opinion, the fear of another child, the fear of reciting in public, are often reasons for this temporary loss of appetite. Homesickness is a similar factor. It is well for us to look through the eyes of the child and try to see if there is not some such reason for his conduct. There is not one of us who does not recall such feelings.

Another form of anorexia is due to bodily overfatigue with its accompanying nervous fatigue, such as results when a child plays with older and rougher children, or when a child gets insufficient rest because of exciting play or stories, evening fondling by fathers, or by giving of tea and coffee. This type of anorexia responds quite readily to regulated periods of rest and supervision of play.

Another factor is the child's mental reaction to the appearance of the food served. The food must be agreeable in its appearance. Many mothers disregard this innate fastidiousness of their children, and serve them food in a careless, untempting fashion. Color is of some importance. I think we all like to see brightly colored food; we know how the small child prefers pink lemonade to the ordinary variety. Odor is also of importance. Disagreeable odors, such as result when eggs are slightly burned, can play havoc with an appetite. A mistake frequently made is to set before a child a large portion of food when it is known that he does not take that food well. Particularly is this the case with cereal. It is better to serve a scant portion, and allow the child to ask for more. The child who does not care much for bread will often eat it well in the form of a sandwich. The consistency of the food should also be considered, especially in the matter of homogeneity, as few children will take food which has a lumpy feel in the mouth.

Under the subject of anorexia, I wish to speak of the influence of the nursing bottle in demoralizing food habits. The nursing bottle is a valuable aid in feeding the young child. Soon after the first year is over, however, continuance of the nursing bottle results in the formation of the "bottle habit," which with time becomes harder and harder to break. The habit seemingly attaches itself to the nipple of the bottle. Many children receive satisfaction by sucking upon the empty bottle. At the same time, the appetite for necessary solid articles of diet becomes blunted, and the child gradually becomes wasted. The effect is similar to that of too prolonged breast feeding. It is my firm conviction that the bottle soon after the fourteenth month becomes a menace, associating with each feeding a habit similar to thumb sucking. Gratification occurs by sensory impulses from the lips rather than by those from a well-filled stomach. The long time necessary for the taking of the bottle permits of more ready satiation than is afforded

by the same bulk given in a cup. I have seen so many children begin to thrive when the bottle is withdrawn that I try to get children on to cup feeding soon after the twelvemonth.

The sucking of other objects such as pacifiers, rings, playthings, bits of cloth, parts of the clothing, is harmful for the same reason. Sucking of a part of the body, such as the thumb, the tongue, or the toes, is even more objectionable, as being a habit much more difficult to break. The sucking habit, therefore, becomes lowered from the status of a vital function to that of a harmful influence as the child grows.

Rumination is the habit of returning food from the stomach to the mouth, either spitting it out or reswallowing it. It may have a developmental basis in the normal rumination of cattle, but for the child it is a most pernicious habit. Grulee[2] has pointed out the severe malnutrition resulting from this practice, and places the mortality at 25 per cent. The use of thick-cereal feeding is of value in this condition. At times improvement occurs with the use of a cap tied firmly beneath the jaw.

The habit of air swallowing, in which the child voluntarily swallows air, and then eructates it, is not frequent, but may have a serious effect upon the state of nutrition. It is allied to rumination, and requires more than the normal voluntary control of the swallowing apparatus. Frequently, some of the stomach contents are brought up with the swallowed air. The habit is apt to cause anorexia, heartburn, and abdominal distress. Air swallowing is usually, however, a purely involuntary process, accompanying all swallowing to a greater or lesser degree, and will be considered as a mechanical factor in gastric disorders.

Nervous Factors

Gastro-intestinal symptoms may appear as a result of partial or complete paralysis in various parts of the alimentary tract. These are not common save in the pharynx and anal sphincter. Difficulty in swallowing arising from postdiphtheritic palatine paralysis is frequently seen, and causes paroxysms of choking and vomiting following the attempt to swallow. This may be modified by swallowing in certain positions, or by finding certain foods better swallowed than others. I recall one boy who seemingly could swallow nothing, but who was successfully fed by his father upon raw eggs, sucked through pinhole openings in the ends of the eggs.

Paralysis of the anal sphincter is not common, and occurs chiefly in the nervous and mental conditions. Partial paralysis of the intestinal musculature gives rise to a very obstinate constipation, and occurs in diseases affecting nutrition.

Reflex gastro-intestinal disturbances result from some form of peripheral irritation, setting-up impulses, which, transmitted outwards, cause abnormalities of function. The symptoms most frequently produced are anorexia, vomiting, abdominal pain, constipation, or diarrhea.

The most important causative factors are intestinal parasites, foreign bodies, and the eruption of teeth. We have many descendants of the age that believed that worms were responsible for many children's ailments. It is our natural tendency to belittle these popular diagnoses, but we should remember that worms still do occur, and not fail to look for them.

Foreign bodies include not only the common articles of hardware swallowed by the child, such as coins and buttons, but also the skins, stones, seeds, and fiber of fruits and vegetables. The skin of beans and corn, and the seeds of grapes are examples.

The rôle of teething in creating reflex gastro-intestinal disturbance has been questioned. There are some who deny to teething any part in the causation of these disorders. Their position compels us to look further for other causes operating to produce the particular symptoms. Where the same symptoms occur and recur with each successive tooth, where there is no other discoverable cause, and where relief promptly follows eruption of the tooth or incision of the gum, it is hard to take this nihilistic view.

Increase of intracranial pressure must be remembered as a cause of gastric symptoms. In the young nursling, this is most frequently caused by intracranial hemorrhage. Blows upon the head often cause vomiting in children of all ages. Meningitis and the meningisms of certain infections act in a like manner by reason of the increased amount of spinal fluid.

Equilibratory disturbances may cause vomiting in the child. This factor may be operative in otitis. The giving of an aural douche, either too hot or too cold, may provoke vomiting. Rocking, swinging, or shaking a small child may do the same.

Chilling of the surface of the abdominal wall frequently gives rise to gastro-intestinal symptoms, mostly in the form of colicky pain; at times a quite severe diarrhea may result. The drinking of cold fluids may act similarly. The effect of hot weather in lowering the efficiency of digestion is well known, but the exact method of operation is not understood.

Spasms occurring in various levels of the

gastro-intestinal tract cause symptoms various in nature and sometimes associated with pain. Spasm at the cardia is seldom diagnosed. The few cases reported show difficulty in swallowing and prompt regurgitation of the swallowed food. It is only demonstrated by mechanical exploration with a stomach tube, and by roentgenological findings. The intermittency of the spasm distinguishes it from the congenital atresias and stenoses which occasionally occur at this site, and from strictures resulting from lye and other corrosives which occur more frequently.

The existence of a separate and distinct spasm of the pyloric circular muscle has been questioned. White[3] objects to the term pylorospasm, and suggests the term gastro-enterospasm, as synonymous with vagotonia. He believes that overaction of the whole stomach wall and of the intestinal wall occurs, as well as that of the pylorus, thus accounting for the vomiting, the gastric hyperperistalsis, and the response to atropin.

The stomach muscle has two functions: first, the peristolic function, which consists of the contraction of the muscle about the food mass very much as a rubber balloon contracts down upon its contained air; second, the peristaltic function, which consists of the wavelike, stripping action of the muscle in moving the food along the tract. Lindberg[4] believes the peristolic function of the stomach to be defective in children, and that an atonic insufficiency is the cause of the vomiting. Rogatz[5] believes the peristolic function to be active, and to be stimulated by a viscid food mass. These facts he has demonstrated roentgenologically. He believes also that the amount of air swallowed is an important factor in causing vomiting. He explains Sauer's results with viscid feeding by the small amount of air swallowed and by the heightened peristolic function which this type of food occasions.

The effect of prolonged feeding of unsuitable food in producing the pylorospastic syndrome is well known. Little new knowledge can be added to our ideas of treatment. The use of long feeding intervals, the use of the erect posture during feeding, the restriction of fat, the use of viscid food mixtures, and the effective use of atropin are well known and need no detailed description.

Spasm occurring in the small and large intestines is productive of pain of a colicky nature. The type of spasm occurring in young infants is generally assumed to be of this type. Our therapeutic knowledge of this condition has not been much enlarged in recent years. The importance of distinguishing this condition from hunger must be stressed. In very many cases, what seems to be colic responds to an increase of food. In true enterospasm the food must be reduced or modified. The discovery of abnormal food residues, such as protein curds, acting as reflex irritants, or the reflex effect of surface chilling, may aid in diagnosis and treatment. The consideration of this condition as a manifestation of gastro-enterospasm, and the use of atropin and viscid food gives results in some cases.

Spasm at the anal sphincter is usually due to some condition causing painful defecation, such as anal fissure, hemorrhoids, or the abrasive action of a hard, dry fecal mass. Small fissures frequently occur, but hemorrhoids are rare. The most common cause is the forcing of a hard stool against the anal mucosa and sphincter. At times there is a congenitally small sphincter, which responds in the same manner. The psychic effect of pain in this region is remarkable. It is carried vividly in the memory of the child, being anticipated at succeeding defecations, and amounts in many instances to a phobia. Suggestion that the pain will not reoccur, with the liberal use of an oily laxative, and the use of a residue-leaving food, will usually stop the constipation and the episodes which attend defecation.

Mechanical Factors

The effect of large particles of food acting as foreign bodies is well known. Therefore, it is important that fruit and vegetable skins be broken by mastication to permit digestive action on the pulp; that coarse fibers be broken into smaller and finer fibres; and that meat be torn apart to permit of its better digestion. In childhood, this disintegration of food is of even greater importance because of the smaller calibered digestive canal and the greater sensitivity of the mucosa. However, in childhood we have a tendency to chew the food insufficiently, and to resort to the methods of bolting and washing down. Hence, it is not surprising that we have so many digestive upsets. Proper chewing demands proper teeth, and therefore no treatment is thorough which ignores defects in these structures. The unhealthy mouth condition caused by carious teeth interferes with appetite. The recollection of toothache following certain foods may lead to their subsequent refusal.

By faults of food lubrication is meant the production of insufficient saliva to render the food properly homogeneous and in condition for swallowing. We are apt to underestimate

the importance of this secretion as a vehicle for the food mass, and to allow children to substitute for it water, milk, cocoa, or soup. The saliva is better adapted in its chemical and physical properties to allow of proper osmotic relations between food and ferments. This has been shown by Graham[6] upon Dr. Chevalier Jackson's lye cases. It was found that when these children were allowed to produce saliva by chewing, and to expectorate this through a suitable apparatus into their own stomachs their nutrition noticeably improved. In this connection, the fact that the coarse foods tend to increase the saliva, and that the refined foods do not, should be borne in mind while preparing a dietary.

When the food mass is too large, and when there is a painful inflammatory condition in the faucial region, dysphagia occurs. It is important to remember that the act of swallowing causes pressure upon a number of contiguous structures, and that derangements of these will cause dysphagia. Examples of this are parotid inflammations, cervical adenitis, and otitis media.

Cleft palate may cause considerable difficulty in the swallowing of food. It is almost impossible for a cleft-palate baby to nurse, because negative pressure cannot be secured with an open nasopharynx. Foote[7] occluded the nostrils of several cleft-palate babies by means of a dental dam secured firmly about the head. These patients took a much larger intake with much less fatigue, and began to gain weight.

Air swallowing is a factor of great importance, especially in derangements of the infantile stomach. It is well known that the infant in sucking swallows a considerable amount of air, which collects in a bubble in the uppermost part of the stomach. This air, according to Rogatz,[8] is greatest with a bottle feeding, less with a viscous food, and least with breast feeding. This air is usually released from the stomach following nursing; hence, it is normal for a child to belch at this time. If the air is not afforded an opportunity to escape, the stomach wall is placed under tension, and responds with a contraction which forces through the cardia a small or large amount of that substance, be it air or food, which lies immediately subjacent. To prevent the loss of food substance in this manner, it has for years been recommended that a child be raised to the upright position during or after nursing, to allow air to lie beneath the cardia instead of food matter. For the same reason, the child has been placed upon its abdomen, because in this position the cardia is posterior, and the air bubble will be also.

Rogatz's studies[5, 8, 9] have shown us the rationale of the thick-cereal-feeding methods. This type of food is swallowed without much air, and stimulates the peristolic function, allowing the stomach to hold the food mass while the peristaltic function causes it to move onward. The well-known diminution of vomiting, and the relative freedom from colic which these babies enjoy, can be explained in this manner.

Overfilling of the stomach has been blamed for vomiting in infants. At one time, the regurgitation of food following nursing was thought to call for a reduction of the quantity given. Our newer ideas of swallowing and gastric function lead us to put fewer and fewer cases in this class. In many instances this ceases when the food is increased in amount. If the baby's hunger is not satisfied, it is often restless and nervous, often it takes its feedings too rapidly, swallows too much air, and then often stuffs its hands into its mouth. Increase of the food will then satisfy the child better, cause it to be quiet after the feeding, and to take the next feeding more carefully and deliberately. Although the distensibility of the stomach is great, and the pylorus is an effective relief valve, the stomach often does become overfilled. The proponents of the concentrated type of feeding show many instances where this regimen overcomes vomiting.

The vomiting occurring with severe paroxysms of cough, as in pertussis and bronchitis, is mechanical in nature, and is due to the suddenly increased intra-abdominal pressure expressing the stomach contents. The mechanical nature of this is shown by the relief which often follows the application of a tight abdominal binder.

Certain pharyngeal disorders cause gastrointestinal symptoms in a mechanical manner. The symptoms usually produced are anorexia, nausea, and vomiting. Where there is great hypertrophy of the tonsils, swallowing is disagreeable and awkward, at times producing gagging. The morning dropping of secretion imprisoned above large adenoid masses does likewise. With the assumption of the upright position, this secretion is allowed to gravitate into the pharynx.

Faulty posture with its distortion of intra-abdominal mechanical relations is a frequent condition in children. The fatigue posture allows of an abnormal curvature of the spine, permitting the abdomen to sag forward and downward. Associated is usually a weak abdominal musculature, and evidence of malnutrition. The symptoms of this condition are loss of appetite, constipation, abdominal pain, nerv-

ous irritability, readiness of fatigue, and failure to gain weight. Many of these children have enlarged tonsils and adenoids, their color is poor, and their expression is dull.

The visceroptotic child must be carefully studied. Physical defects of a causative nature can usually be found. The elimination of these, together with improvement in faulty habits and diet, will usually put the child in a position to respond to therapeutic measures. These consist of corrective exercises and rest. At times the use of an abdominal support greatly accelerates the gain under gymnastic treatment.

Obstruction of the alimentary tract occurs in many forms, and usually produces symptoms of an immediately serious nature. Obstruction by foreign bodies is infrequent. Coins and other metallic objects, masses of intestinal parasites, stones of fruit, and fecal concretions are occasionally found. Most of the objects swallowed by children are passed without symptoms.

Obstructions may be congenital. Stenoses and atresias occur most frequently in the esophagus, at the orifices of the stomach, in the duodenum, and at the anus. The severity of the symptoms usually depends upon the severity of the obstruction. In some cases it is promptly fatal; in other cases it is quite compatible with life.

Congenital pyloric obstruction is perhaps the most frequent form, and needs no comment. The success attained in the diagnosis and treatment of this condition should inspire us to greater efforts in conquering other forms now so highly fatal. Early diagnosis and gastroenterostomy have given some good results in the duodenal stenoses and atresias.

Atonic obstruction of the intestine occurs where the musculature is too feeble to insure proper onward movement of the fecal current. The symptoms in this type are often serious, and usually lead us to suspect an inflammatory condition or congenital megacolon. Fecal impaction occurs, the child may have colicky pains and vomiting attacks, and may go three or four days without a movement.

Acute ileus may be due to bands, adhesions, abnormal structures, such as a Meckel's diverticulum, to volvulus, to strangulation at a hernial orifice, external or internal, but most frequently to intussusception. It is of paramount importance to be on the watch for this condition, as prompt diagnosis only will save life. Bergstrom[10] reports intussusception of a subacute type, characterized by less violent symptoms than the usual type of case shows. She cautions against mistaking this condition for dysentery.

Obstruction by tumors without the intestine occurs most frequently by sarcoma or hypernephroma of the kidney, by polycystic kidney, or by hydronephrosis. I have recently seen obstruction due to a tumor of the bowel itself. In this boy, whose obstruction was almost complete, a large hypertrophic mass was found in the intestinal muscle surrounding its lumen. Microscopically this showed hypertrophy of the musculature. Tænia nana was recovered from the feces.[11]

SUMMARY

In the correction of disorders of digestion in the child, close attention must be paid to details of management and environment. Explicitness of instruction and careful questioning of the parent will often bring success in difficult cases. Particular stress must be laid upon the development of good habits and the breaking of harmful ones in their incipiency. The creation of an atmosphere of mental calm and domestic happiness restores to many children normal digestive function.

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ABSTRACT OF DISCUSSION

PERCIVAL NICHOLSON, M.D. (Ardmore, Pa.): In overcoming anorexia it is better to serve children's meals with other children, away from adults and the distractions of their conversation. It is also desirable to avoid highly seasoned foods, for if given even in small quantities it will be but a short time until the child will refuse the simple, less seasoned, but essential foods, and an anorexia complex will be established. Restriction of diet is also helpful where children have been fed too concentrated food. I recently saw a case where the patient was fed rich Jersey milk. This upset him, but when put on a skim-milk diet, he returned slowly to normal. Children may also be seriously upset by ice cream. This food is undoubtedly nutritious, but, owing to its coldness, it may delay digestion. The high fat content, also slowing digestion, may produce acidosis.

The offspring of very high-strung, nervous parents may, during the early feeding period, cry nearly all the time, apparently from hunger or colic. If the diet is

well handled and the calories are high enough, and there is no abnormality of the bowels, the child's nervous system will eventually straighten out, and the apparent hunger disappear.

ALFRED HAND, M.D. (Philadelphia, Pa.): Improvement of digestion often follows removal of infected tonsils and adenoids. I believe that many of the cases of cyclic vomiting which formerly occurred rather frequently were due primarily to nasopharyngeal infections, which set up gastric disturbances and vomiting, resulting in a profound state of acidosis.

In connection with Dr. Scott's statement that digestive disturbances often depend upon some nervous condition, Dr. Rohrbach has suggested to me the influence of automobile riding in such conditions in young children. They may be induced by jolting or by the vibration of the engine, which "key up" the nervous system so that the sleep is often disturbed for at least the next night. It also may be induced by the exhilarating effect of the rush of fresh air, which acts in a similar way and may, in excess, be positively harmful. It may also, by reason of chilling, cause air-passage infections, followed by digestive disturbances.

ELMER L. MEYERS, M.D. (Wilkes-Barre, Pa.): Very recently, in consultation with one of my colleagues, I saw a child 6 months old, with symptoms of obstruction of the bowels of five or six days' duration. There was a palpable mass in the lower right abdomen. A small amount of blood was passed with the fecal movement, and later there was a considerable amount of blood without fecal matter which might have been mistaken for a bloody dysentery. The x-ray revealed an obstruction at the cecal end of the colon, and at operation a mass was found in the region of the cecum, which had perforated in several places, the bowel contents being discharged into the abdominal cavity. The baby had suffered an acute pain followed by shock just before the operation which was no doubt caused by the perforation. Obstruction of the bowels in children under one year is comparatively rare, and when present is usually due to ileocecal intussusception.

H. BROOKER MILLS, M.D. (Philadelphia, Pa.): One year from the date the bottle is started is ample time for all infants to use it. Thus, if the bottle is started at one month, it should be stopped at thirteen months; if it is started at three months, it should be withdrawn at fifteen months. Its use for a longer period is apt to result in enlarged tonsils.

Babies under one year of age should rarely be taken in automobiles, due to the effect of the vibration on their nervous mechanism. If, in addition, during the course of the trip they have to be fed while rolling along at 30 or more miles an hour, the effect would be comparable to that on an adult of corned beef and cabbage taken on a liner in midocean.

J. GIBSON LOGUE, M.D. (Williamsport, Pa.): The appetite of the nervous child who is on a high milk diet may frequently be improved by restricting the 24-hour intake of milk. He may often be induced to eat if one article of food is presented at a time, giving first the food we most desire the child to eat, and in small amounts, and following, after this is eaten, with the things which appeal more to the child.

DR. SCOTT (in closing): In my experience, otitis media has frequently followed automobile riding, especially in summer time and in closed cars. I have seen little of the other symptoms mentioned as results of automobile riding, but otitis immediately following a ride has been forcibly drawn to my attention.

Symposium on General Surgery in Children*

PYLORIC STENOSIS IN INFANTS†

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Pyloric stenosis of infancy is one of the surgical conditions in which early diagnosis bears an important relation to prognosis. From January, 1913, to July, 1925, there were 53 such patients admitted to the Children's Hospital in Philadelphia, and from a review of these we are impressed with the fact that only too frequently the physician who first saw the child with symptoms of a stenosis mistook it for one of intestinal indigestion or some form of gastric disturbance, and treated it accordingly. As a rule, each change in the feeding formula was attended by an apparent improvement for a day or two, only to be followed by a return of the little patient's symptoms.

Our investigation has shown that quite frequently one of the first conclusions is that the mother's milk is at fault, should it happen to be a nursing case, and the child is therefore soon taken from the breast, with the resultant diminution or entire cessation of this very important source of nutrition. In such instances, when the child is finally brought to the hospital, we see a rather emaciated, dehydrated, undernourished little individual whose chances for recovery have been considerably impaired. Fortunately, as with intussusception, the condition is being recognized earlier and the children now referred to us are usually in better shape than formerly, with a resultant diminution in the mortality.

The etiology of pyloric stenosis[1] has given rise to a good deal of discussion in recent years, and it is apparently still undetermined as to the proper sequence of the pyloric hypertrophy, spasm, vagus stimulation, and other possible factors. Smith[2] states that "edema, the result of circulatory disturbances incident to attempts of the stomach to force food through the pylorus, is the factor which determines the time of onset of the symptoms," although most observers are of the opinion that it is not until spasm is added to the hypertrophy that evidence of stenosis manifests itself. That the tumor alone is not responsible is evident from the reports of cases treated medically in which the tumor mass per-

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†From the Children's Hospital, Philadelphia.

sisted after the child had apparently recovered. It has also been rather conclusively shown that the size of the tumor is dependent on the age of the child rather than upon the severity of the symptoms.

The consensus of opinion seems to be in favor of a primary developmental hyperplasia of the circular muscle fibers involving the pyloric ring and antrum. From the fact that this has been observed in a seven-month fetus and in an infant within a few hours of birth, it may be congenital in origin. The symptoms may appear at the end of the first week or even earlier, but in the majority of cases they occur from the second to the fourth week, most of those in our series having started in the third.

Whatever may be the sequence of etiologic factors, the projectile vomiting occurring immediately or shortly after feeding, visible "golf-ball" peristalsis of the stomach traveling from left to right, and progressive loss of weight constitute a picture which should make every physician suspect pyloric stenosis. If, in addition, after emptying the stomach, one can palpate an abdominal tumor to the right of, and somewhat above the umbilicus, the diagnosis is practically assured.

The advisability of routine Roentgen-ray examination is a matter of personal preference, Strauss[4] recommending it, and Bolling[5] regarding it as being indicated only in doubtful cases. The practice at the Children's Hospital is in accord with Bolling. Our case histories show that a mass was palpated before operation in twenty instances, was doubtfully so in nine, in fifteen it could not be demonstrated, and twice it was thought to have been definitely felt, but could not be found when the abdomen was opened.

The amount of stool has been an inconstant factor, several of the children being constipated, while others had fairly free movements. This is no doubt dependent on the degree of stenosis, and because the bowel movements continue, the physician must not on that account exclude the possibility of pyloric stenosis.

There are competent medical men who claim that they can cure this condition without operation, and cite cases to bear out their statements, but once the diagnosis is made, most practitioners are agreed that surgical measures are indicated. Our custom has been to refer the unquestionable cases at once to the surgical service, while those of a doubtful character are sent to the medical wards for a course of study and treatment. If, after a reasonable period (seven to ten days), the child does not improve, even though the roentgenologist may report the condition as not being due to a definite tumor, and the vomiting, loss of weight, and visible peristalsis continue, operation is advised. Even in the cases of suspected pylorospasm, in which the child continues to fail in spite of a thorough trial of atropin, thick gruel, etc., the medical staff is more frequently advising surgical interference.

Hipsley[6] reports having operated in four cases of this type in which a tumor was not present. In three of them he divided the muscle, and all recovered after prolonged medical treatment. We have recently seen two such patients, and in each, although the x-ray showed a fair emptying time and a tumor was not palpable, yet the vomiting, peristalsis, and loss of weight progressed to such an extent that it was evident the child would succumb unless the condition was relieved. Both infants were operated upon, neither had a tumor, and I incised the pyloric sphincter in each. One died in a few days, having developed pneumonia, and in the other the vomiting practically ceased, visible peristalsis disappeared, and at the present time the child is gaining slowly but steadily. Whether in this type of case the simple division of the serosa and muscle causes a break in the reflex nervous stimulation and thus inhibits the spasm I do not know.

We do not advocate operation in all cases of spasm, but where the condition is progressive in spite of careful medical treatment, and it is obvious that death will supervene unless relief can be obtained, it seems that operation with division of the muscle is justifiable.

We are of the opinion, as expressed by Bolling and others, that our operative mortality is due more to delay in deciding whether or not to operate than to the operation *per se*. In this connection, the proportionate loss of body weight bears an important relationship to the mortality, those children weighing seven and one-half pounds or less, in whom the loss has been twenty-five or thirty per cent or more of the best weight, giving the largest proportion of fatalities. It has also been our experience, along with that of many other writers on the subject, that the Fredet-Rammstedt[7] operation affords a complete cure in the shortest possible time, and the course is not so protracted as is the case when the treatment is entirely medical.

The preoperative treatment of these little individuals is receiving more careful consideration than heretofore, for it has been well demonstrated that a few days spent in preparation, giving glucose by vein, and blood transfusion when indicated, can accomplish wonders in improving the condition of these dehydrated undernourished

infants, and that they stand operation much better than when these measures are omitted.

Downs[8] is of the opinion that blood transfusions are not of much value unless there has been a considerable loss of blood, while Bolling, on the other hand, favors them. We have never observed any harmful results from such transfusions, usually using the mother or father as donor, and it is our opinion that everything possible should be done to aid these children in their struggle to regain their health.

Immediately before the child is brought to the operating room, its stomach is emptied by means of a catheter, this, we believe, being an important step and one which greatly facilitates the subsequent exposure of the pylorus.

When the patients are in good condition, ether anesthesia has given satisfaction, although there is no objection to local infiltration should the surgeon prefer it. With a general anesthetic the operation can be performed more expeditiously, and the unpleasant complication of having more or less of the intestine forced out into the wound is obviated. Should the child be in poor condition, or if for other reasons local anesthesia is deemed advisable, it is important that the posterior rectus sheath and peritoneum be widely infiltrated. A sugar pacifier helps keep the youngster quiet, although we have found that when traction is made to deliver the duodenum, the child usually cries, and there is a tendency for the intestines to present themselves in the wound. We have occasionally found that under such circumstances the reduction of these herniated coils of intestine has consumed more time than the operation itself, it being at times a very tedious undertaking. If, as advised by some writers, the incision be made rather high on the abdominal wall and, with the abdomen opened, enlarged downward as needed to expose the pylorus, there is less of a tendency for bowel to protrude.

Numerous variations of the Fredet-Rammstedt method of incising the pylorus have been suggested, Strauss, in particular, having devised a somewhat elaborate technic. His results apparently warrant this procedure, but for the surgeon who does not see a large number of these cases a more simplified operation seems advisable. In the Children's Hospital we do not usually free the mucosa and make muscle flaps as he suggests, nor has it been deemed necessary to cover the pyloric incision with omentum. Practically all surgeons recognize that it is at the duodenal end of the incision that accidents are most likely to occur, and in our series the mucosa was opened in this region seven times, the wound being immediately closed with a suture of fine silk. Fortunately, none of these cases developed peritonitis. Since adopting the procedure of cutting only partially through the muscle from stomach to duodenum, the rest of the muscle being separated down to the mucosa either with the handle of the scalpel, fine artery forceps, or Mayo scissors, this accidental puncture of the mucosa has been much less frequent.

It is, of course, important to make sure that all of the muscle fibers are completely severed, and this can usually be determined by seeing the mucosa bulge from stomach to duodenum, especially if gentle pressure is made on the former and air is forced into the duodenum. In one instance it was necessary to reopen the abdomen on account of the circular fibers not having been completely severed. The child made a normal recovery. Any persistent bleeding in the cut sphincter is controlled with a fine silk suture, this having been required nine times in our series.

It is also advisable to close the abdomen in layers instead of merely using a through-and-through suture. On one occasion, when the latter method was adopted, upon removing the skin stitches the wound broke open, necessitating a secondary closure. The nutrition of these children is often so much below par that tissue repair is not as rapid as in healthier infants, and the abdominal wall therefore requires as much support as possible.

Stitch infection was occasionally encountered, but soon cleared up on removing the sutures, it having in no instance interfered with the progress of healing. One patient died from postoperative bleeding in the abdominal wall. The incision was reopened, the abdomen found free of blood, and an attempt was made to check the oozing from the abdominal muscles, but without success as the child continued to sink in spite of all efforts.

The postoperative management of pyloric stenosis is of the greatest importance, and special precautions must be taken to guard against shock. We make it a practice to give glucose, 3-per-cent solution, by hypodermoclysis; and glucose and bicarbonate of soda, each 3 per cent, by proctoclysis, 15 to 30 c.c. every two or three hours. Blood transfusion is used when indicated. It must be remembered that the food tolerance of children who have been starved for some time is markedly impaired, and great caution must therefore be observed in starting feedings. It is our practice to give 15 c.c. of water within an hour or two of operation, followed in an hour or two with 5 to 6 c.c. of breast milk diluted with an equal amount of barley water. Breast milk and water are alternated every two or three hours,

and the amounts gradually increased as the child is able to handle it, until at the end of two or three days the child is taking from 25 to 30 c.c. From this point, the strength and amount are graded according to the child's requirements. Usually by the end of the week nursing may be resumed, and for this purpose it is very important that every effort be made to maintain the mother's milk supply during the postoperative period when the child is not taking the breast. Previous to the resumption of nursing, the child is fed by means of a medicine dropper. Should nursing be followed by gaseous distention, the stomach can readily be relieved by means of a catheter.

Postoperative vomiting was not a serious complaint, it having been recorded as mild in 22 cases, severe in 3, and absent in 8, and was usually checked by a short course of atropin. Practically every child who survived soon gained in weight, although some required five to ten days before they showed an increase. In two instances there was a failure to gain over a period of two weeks, and in one there was a loss.

In this series, operated upon by five chiefs and their assistants, there was a mortality of 28.3 per cent. This is unduly high when compared with that of Bolling—15 per cent in 163 cases—and we believe that it is to a certain extent due to the fact that a large proportion of the children were in very poor physical condition at the time they came under the surgeon's care. No one will deny that the more experience one has in performing the Fredet-Rammstedt operation the better will be his results, and this is clearly shown by comparing the figures of Downs and Bolling with those of the Children's Hospital, where a small series of cases was operated upon by a comparatively large number of men.

This series is obviously too small to warrant drawing any conclusions, but several facts have impressed themselves upon us:

1. The diagnosis of pyloric stenosis can be made early and accurately, and when so done the case should be referred to the surgeon.

2. Undue delay in recognizing the condition greatly decreases the chance of recovery.

3. Careful pre- and postoperative care of the undernourished, dehydrated child will often save a patient whose condition otherwise is apparently hopeless.

4. The Fredet-Rammstedt operation is the one of choice, and is definitely curative, greatly cuts down the period of convalescence, and restores the child to a normal condition.

For the privilege of reporting these cases I am indebted to Drs. Jopson, Hodge, Allen, Speese, and Lee, upon whose services they were admitted.

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ACUTE INTUSSUSCEPTION IN INFANTS

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Intussusception, the commonest cause of intestinal obstruction in children, presents such a characteristic group of symptoms that a paper of this type may well be introduced by citing a few case histories.

CASE 1.—A previously healthy, breast-fed boy baby suddenly cried out with pain. The crying continued for nearly two hours. He vomited once, and the mother noted that he was very pale. This was followed by apparent relief of all symptoms, and the child fell asleep. During the attack he had a normal bowel movement. Six hours later there was a repetition of the pain, and the napkin contained a spot of bright red blood. He was seen eighteen hours later, after two similar attacks. Examination revealed a well-nourished, perfectly comfortable infant. The abdomen was slightly distended. There was an indefinite mass to the left of the umbilicus, and the examining finger in the rectum became stained with blood. An ileocecal intussusception extending into the descending colon was found at operation.

The above is the classical picture of a case with complete intestinal obstruction where the bowel has invaginated itself so firmly that blood has extravasated into the lumen.

CASE 2.—A previously healthy breast-fed boy baby was seen 19 days after the onset of his illness. He became somewhat fussy for short periods during the first day, the second day he had several crying attacks, each of which lasted about 5 minutes. During this day he had green stools which were slightly blood-tinged. No blood was passed after this. From that time until his admission to the hospital, 19 days later, he remained in about the same condition, having five or six crying attacks each day. He nursed well, but vomited four times during this period. The bowels moved each day.

Upon examination, a mass was found in the left upper abdomen extending from the ribs to the level of the umbilicus. An ileocecal intussusception extending into the descending colon was found at operation.

This case illustrates a type of intussusception without complete intestinal obstruction, and with practically no blood in the stool.

CASE 3.—A third history of a girl aged two in which the onset of intussusception was 28 days previous to operation, and the symptoms were even less severe than in the second case, demonstrates a type of very loose invagination without any signs of obstruction other than attacks of colicky pain.

ETIOLOGY

The causative factor of this condition is unknown. Some men are content to attribute the onset to any abnormally severe peristaltic action, pointing out that peristalsis is always very active in infants, and therefore most cases of intussusception occur at this age. Others think along purely anatomical lines, and believe that the disproportion between the size of the ileum and cecum plus increased peristalsis is enough to account for the condition. A third theory is based upon the anatomical make-up of the ileocecal valve. The latter is formed by a slight invagination of the small bowel into the large, and therefore an incipient intussusception is always present which may, by increased peristalsis, be further inverted and become a true one. A most attractive hypothesis as to the production of this type of obstruction has been stated by Kahn, quoting the work of Perrin and Lindsay. Tumors within the bowel have been recognized as the cause of intussusception. On this basis, they believe the enlarged lymphoid patches in the lower ileum may act in a similar manner, especially as the lymphoid tissue in this part of the gut is highly developed in young children.

INCIDENCE

This condition usually appears in previously healthy infants; in fact, most of them are breast-fed. It is more frequent in males than females, nearly two to one. Most cases appear in the first year of life. In Clubbe's series of 270 cases, 88 per cent were in the first year, 9 per cent in the second, and 2 per cent over this age.

Pathologically, it is a state quite easily understood. The small bowel becomes constricted and then pushed into the colon. It becomes pinched, and swelling results. This causes more pinching, and as the condition progresses, it becomes so tight that there is extravasation of blood through the mucous membrane into the lumen of the bowel. Progression may result in gangrene of part or all the affected tissue, with or without perforation in the invaginated portion. As any duct attempts to remove a foreign body by increased peristalsis, so does the intestinal tract try to expel this telescoping mass, which results in an increase in the amount of gut involved, and explains mechanically the symptoms as they appear.

SYMPTOMS

In the acute type, the symptoms are classical: a sudden onset of abdominal pain with pallor in a previously healthy child, evidenced by crying, with drawing up of the legs, and accompanied by vomiting. The attack of pain subsides as suddenly as it appears, and the child is apparently well. It remains so, however, for only a short time, when there is a repetition of pain and vomiting.

Examination of the child at this time usually reveals nothing. Temperature, pulse, and leukocytes are normal. The abdomen is soft and not tender. Peristalsis may be increased, but usually not between the attacks. Often there is at least one normal bowel movement after the onset, but this is followed by constipation, and nothing but blood and mucus are passed from the anus. This sign—blood unmixed with fecal material, often of considerable quantity—is the most valuable and conclusive sign in the diagnosis of intussusception. Still later in the course of events an abdominal mass, usually on the left side, can be palpated. This tumor, described as sausage-shaped, is a fairly late sign, and one not to be awaited in the treatment of this condition. It usually means that the tip has passed the splenic flexure. So long as it remains in the ascending or transverse colon, it is very difficult to feel without an anesthetic.

The symptoms are caused by purely mechanical factors. The foreign body enters the intestinal tract, and nature tries to expel it by increased peristalsis, which gives the colicky type of pain. As the bowel tires out, the pain subsides, causing the interval of comfort noted in these infants. The mass cannot be dislodged, and reverse peristalsis is the result. This gives rise to vomiting. As the mass becomes tighter, blood extravasates and appears on the napkin or the examining finger. Later in the course of the illness, inflammatory signs, such as rise of temperature, increase of pulse, leukocytosis, tenderness, and rigidity enter into the picture. Their appearance indicates that the condition has passed the stage of a simple intestinal obstruction, and has added to it the severe complication of peritonitis.

In the differential diagnosis, chronic colitis is the main condition to be considered. Other types of intestinal obstruction, such as strangulated hernia, volvulus, and intestinal adhesions, are rare in children, have their own outstanding signs, and do not give the classic picture with blood in the stool. In chronic colitis, however, there are attacks of pain with bloody stools. The main point in differentiation is the fact that in an intussusception there is a complete obstruction with blood unmixed with fecal matter, while in chronic colitis there is fecal matter streaked with blood. The signs of inflammation, the duration of illness, and the less sudden onset are further points which tend to differentiate these two conditions.

Treatment

We believe that acute intussusception should be classed as a surgical emergency. Injection of fluid and air have undoubtedly reduced the obstruction in some cases. However, the result can only be surmised at the time of administration. An anesthetic is required to do it properly, and if failure results, time has been lost and an additional anesthetic has been used in a child who obviously should have only a minimum amount of trauma at this time. An immediate laparotomy is advised in all cases. A midline or right rectus incision half above and half below the umbilicus is satisfactory. The small bowel, because of its distention, is usually quite troublesome, and we attempt to keep it from protruding itself into the wound. If, however, this procedure is extremely difficult, we believe that the gut should be allowed to come out temporarily, as it produces less shocking than continually fighting it with sponges. The mass is then sought for. The tip of it is grasped, and by gently milking this portion, it is pushed upwards and around into the transverse colon. At this point it can be delivered into the wound, and the small intestines replaced. The milking process is then continued until the reduction is complete. Most of the reduction is usually quite easily done, except at the flexures of the colon, where some little time may be consumed, and at the very last portion, where it is unfolded at the cecum. Here, considerable difficulty may be encountered, and five minutes or more may be consumed in reducing this one or one-and-a-half inches. If gentle pressure on the tip does not avail, stretching in the invaginated groove with sponge forceps may be resorted to. Pulling on the invaginated end is a dangerous procedure.

It will often be found in this type of intussusception, beginning at the terminal ileum, that there is a double invagination either of the ileum or of the cecum. This, of course, must be ironed out, or recurrence is likely. We have never made any attempt to anchor large or small bowel either to each other or to the abdominal wall to prevent recurrence: first, because we feel that it would not be efficacious; and, secondly, because this swollen, edematous tissue does not lend itself well to any type of sewing. A thick, inflammatory bowel is in itself the best preventive against a recurrence. If once ironed out into its normal shape, it is quite difficult to turn it in again. We do not remove the appendix.

The abdomen is closed without drainage, with a rather large number of tension sutures of silkworm gut, as this type of wound has a tendency to open spontaneously during the first week. We have had one such experience. If the mass cannot be reduced, and the condition of the patient does not warrant an attempt at resection, the two layers of bowel can be sewed together at the base, and an ileostomy done. Cases have been reported where such a procedure has ended in recovery without a second operation, the invaginated portion having sloughed away and been cast off through the rectum. If this does not occur, of course a resection must follow such a procedure. We have no cases of resection in our series. We have, however, had two cases where perforation was uncovered in the very last portion reduced. These openings were closed without difficulty, but both patients died soon after operation. Both of these children might have been saved by a simple ileostomy.

The postoperative care is the same as after any severe abdominal operation. Abundant fluid is supplied in any form that is taken well, and great care is observed to preserve the body heat.

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EMPYEMA IN CHILDREN

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In a consideration of empyema in children the cases may be classified into two groups: those that occur during infancy between the first and third years, and those that occur after the fourth year of life. In the series herewith reported, the mortality percentage for the first group was 56, 24, and 17 per cent respectively in the first, second, and third years of life, while in the second group the mortality was only 11 per cent. The high death rate in early infancy is probably due to several factors. The pneumonia, which is usually the forerunner of an empyema, is often of the bronchial type, and frequently follows some debilitating disease, so that when the empyema develops, the child's resistance is at a low ebb. Generally, also, the pneumonia is of the lobar type, and is not localized to one area, but several patches may exist simultaneously, producing a severe toxemia, and thus reducing the infant's reserve to a minimum. Other factors involved are that in infants the empyema is apt to develop at an earlier stage in the pneumonia than it does in older children, that is, before resolution has taken place; furthermore, infants seem more prone than older children to develop a septicemia associated with the pneumonia; and finally, there is no doubt that during early infancy the pneumonia is more apt to be complicated by such serious conditions as meningitis, peritonitis, pericarditis, and otitis media.

This study is based upon 291 cases of empyema observed in our services at the following hospitals: Mary J. Drexel Home, 103 cases; St. Christopher's Hospital for Children, 101 cases; the Hospital of the Protestant Episcopal Church, 80 cases; and Philadelphia Hospital for Contagious Diseases, 7 cases. In the first two institutions named the cases comprised those admitted during the past eight years; in the third, those admitted between 1915 and 1923 inclusive; and in the last, those treated during the past two and a half years.

ETIOLOGY

As in other collected statistics, the etiologic factor in nearly all of our cases was pneumonia, and where the histories failed to show a preëxistent pneumonia, the empyema could always be traced to some respiratory disturbance such as pertussis, influenza, or some other bronchial affection. Indeed, it is only reasonable to believe also that an unrecognized pneumonia had existed in these cases. In one instance in this series, the empyema was secondary to traumatism to the chest wall, and in another case it was supposed to have followed a tonsillectomy done twenty-three days previously, although in this latter case there was a strong suspicion of bronchopneumonia. The relationship of empyema to the contagious diseases will be discussed separately.

ONSET

The duration of the illness before applying for hospital aid varied from six days to two months or more. The onset in many cases was obscure, the first symptom being dyspnea sufficiently urgent for the attending physician to suspect an empyema and to send the child to the hospital, where aspiration frequently revealed the presence of pus and confirmed the diagnosis.

The acute cases usually show high fever, cyanosis, rapid pulse, dyspnea, and sometimes delirium, which is not at all uncommon in infants. In the subacute cases, or in the small well-circumscribed pneumococcic empyemas, the above symptoms may be entirely absent, and in their place there will be loss of weight and appetite, a hacking cough, occasional diarrhea, etc. If a previous history of pneumonia can be established, this will greatly facilitate the diagnosis.

DIAGNOSIS

The typical case is that in which there is a return of fever after the pneumonia crisis, with dyspnea, rapid pulse, cyanosis, and displacement of the heart. Empyema should be suspected in pneumonia when the temperature falls but does not quite reach the normal, and then begins to oscillate above the normal temperature line; also in cases where the percussion note becomes more flat and there is an extension of the dullness anteriorly. The Roentgen ray is usually of great assistance in locating the empyema and in determining the condition of the lungs themselves. The final and absolute diagnosis, of course, rests with aspiration and the demonstration of pus. In using an exploring needle it must be remembered that the size of the bore of the needle and the location and consistency of the pus may, for mechanical reasons, yield a dry tap when pus is really present. In one case in the series (an apical empyema), the x-ray and aspiration both failed to be of aid in the diagnosis. The child, fortunately, later developed an empyema necessitatis, pointing above the scapula.

In children, pseudocrises are not common, nor is the termination by lysis a frequent occurrence

except in debilitated infants. While there may be such a thing as delayed resolution in the pneumonia of childhood, we have never seen it. Our experience has been that these cases always turn out to be empyema.

The empyema in nearly all of the series under discussion was of the massive type, localized toward the base of the thorax, posteriorly. Interlobar and small encapsulated empyema and collections of pus high in the thorax, either posteriorly or anteriorly, were rare in this series.

CAUSE

What causes empyema? According to Moschcowitz, it is due to the rupture of a subpleural abscess. Other authorities attribute it to extension of the original disease process by the way of the lymph channels from the hilum of the lung peripherally. We believe that pleurisy complicating a pneumonia from the onset represents a strong causal factor. In our experience, the pneumonias with an early pleurisy have shown a greater tendency to pyothorax than the simple pneumonias without that complication. One case in this series was probably metastatic, following a furuncle. The child developed a septicemia, osteomyelitis of the ribs and radius, and an empyema. This was one of the fatal cases in the series.

INCIDENCE

Of the total number of 256 cases of empyema admitted to the surgical services of the Episcopal Hospital during the years studied in this series, 80, or 31.8 per cent, were children under 12 years of age. Sex, age, incidence, and mortality of the entire series appear in the following tables.

TABLE I—EPISCOPAL HOSPITAL

Age	*Male*	*Female*	*Total Cases*	*Right Side*	*Left Side*	*Died*	*Mortality*
1 year or under	1	0	1	1	0	1	100 per cent
2 years or under	7	5	12	9	3	2	16.6 per cent
3 years or under	10	7	17	10	7	4	23.5 per cent
4 years or under	7	3	10	9	1	1	10 per cent
5 years or under	5	1	6	3	3	0	0
6 years or under	5	4	9	5	4	0	0
7 years or under	8	0	8	4	4	2	25 per cent
8 years or under	2	3	5	4	1	1	20 per cent
9 years or under	4	1	5	3	2	1	20 per cent
10 years or under	1	1	2	1	1	0	0
11 years or under	2	1	3	3	0	0	0
12 years or under	1	1	2	1	1	0	0
Totals	53	27	80	53	27	12	

In this series there were two cases of empyema necessitatis. There were 12 deaths, or a 15-per-cent fatality. Of the total cases, 66.24 per cent were right-sided; and curiously enough there was the same percentage of males.

TABLE II—ST. CHRISTOPHER'S HOSPITAL

Age	*Male*	*Female*	*Total Cases*	*Right Side*	*Left Side*	*Died*	*Mortality*
1 year or under	6	3	9	5	4	5	55.5 per cent
2 years or under	23	9	32	19	13	9	28.1 per cent
3 years or under	13	5	18	11	7	4	22.2 per cent
4 years or under	11	6	17	9	8	3	17.6 per cent
5 years or under	2	4	6	4	2	1	16.6 per cent
6 years or under	2	2	4	3	1	1	25 per cent
7 years or under	3	0	3	2	1	0	0
8 years or under	4	1	5	2	3	0	0
9 years or under	1	1	2	1	1	0	0
10 years or under	2	0	2	2	0	1	50 per cent
11 years or under	0	1	1	1	0	0	0
12 years or under	0	2	2	0	2	0	0
Totals	67	34	101	59	42	24	

This table shows a mortality of 23.7 per cent, of which 67 patients were males. The greatest number of these cases occurred during the second year of life. Four children were under six months of age, with one recovery.

TABLE III—MARY J. DREXEL HOME

Age	*Male*	*Female*	*Total Cases*	*Right Side*	*Left Side*	*Died*	*Mortality*
1 year or under	6	0	6	1	5	3	50 per cent
2 years or under	14	8	22	10	12	5	22 per cent
3 years or under	5	6	11	8	3	0	0
4 years or under	10	0	10	7	3	0	0
5 years or under	5	5	10	4	6	1	10 per cent
6 years or under	12	5	17	6	11	3	17.6 per cent
7 years or under	3	4	7	5	2	1	14.2 per cent
8 years or under	4	1	5	5	0	0	0
9 years or under	3	0	3	1	2	0	0
10 years or under	4	2	6	3	3	1	16.6 per cent
11 years or under	0	0	0	0	0	0	0
12 years or under	6	0	6	3	3	1	16.6 per cent
Totals	72	31	103	53	50	15	

In this series there was one case of bilateral empyema, the child recovering.

These tables show a preponderance of cases in males, and a greater number on the right side. The greatest number of cases occurred during the second year, and the same year of life shows relatively the highest death rate, although it was absolutely highest during the first twelve months of life.

The statistics from the Philadelphia Hospital for Contagious Diseases are somewhat different from those of the general hospitals. The cases are those occurring during the past two and a half years among 12,290 total admissions for scarlet fever, diphtheria, measles, pertussis, variola, varicella, and certain mixed infections, as tabulated below. Of the total number, 192 were complicated by bronchopneumonia, and 12 by (or intercurrent with) lobar pneumonia. Only 7 of the entire series developed empyema, 6 of them being within the age limits considered in this paper.

TABLE IV—PHILADELPHIA HOSPITAL FOR CONTAGIOUS DISEASES

Disease	*Cases*	*Broncho-pneumonia*	*Lobar pneumonia*	*Empyema*	*Death from Empyema*
Diphtheria	5,805	83 (1.4%)	7	1 (.017%)	0
Scarletina	5,081	12 (2%)	5 (0.1%)	5 (0.1%)	2 (40%)
Measles	352	36 (10.2%)	0	0	0
Pertussis	271	30 (11.07%)	0	0	0
Variola	275	9 (3.2%)	0	0	0
Varicella	85	0 (0%)	0	0	0
Scarletina + Measles	301	7 (2.3%)	0	1 (0.3%)	1 (100%)
Diphtheria + Measles	67	10 (14.4%)	0	0	0
Pertussis + Measles	15	3 (20%)	0	0	0
Anthrax	38	2 (5.1%)	0	0	0
Totals	12,290	192	12	7	3 (42.8%)

One patient with bilateral empyema in this series recovered.

It thus is evident that empyema is rather a rare complication of what are known as the communicable diseases, but when it does occur, it invariably follows a complicating or an intercurrent lobar pneumonia or a complicating bronchopneumonia, and complicates scarlet fever more frequently than any other disease of this group. This experience is substantiated by other observers. Pfaundler and Schlossman (1924), for example, say that "pneumonia is a comparatively rare complication of scarlet fever, and if this complication sets in at the height of the disease (and here usually only small children are concerned), the prognosis becomes considerably more grave, because it almost invariably leads to infection of the pleura, which in turn is followed by an empyema, very often fatal." This occurred in 50 per cent of our series. The pus in these cases usually was of the thin streptococcic type. Griffith likewise considers pleurisy with an effusion, often purulent, as only an occasional complication of scarlet fever. With regard to rubella, diphtheria, and pertussis, it is generally conceded that serous or purulent pleurisy may

occasionally arise to complicate one or the other of these conditions.

TREATMENT

Much depends upon an early diagnosis. This is of the greatest importance, and includes not only the recognition of pus in the chest, but the presence or absence of further pneumonia processes, and the *vis a tergo* of the patient, whether he is in a negative phase from toxemia, or has reacted sufficiently well from the toxemia to stand operation. Even in the presence of pus, immediate operation was not always resorted to, for pneumonia was at times still present, or the physical condition was such that less drastic measures had to be used until it was safe to operate.

The question of operation in these cases bears a marked resemblance to the question of immediate operation in acute appendicitis with diffuse peritonitis, where also it often is better to wait for localization and a better state of resistance on the part of the patient.

Resolution of the pneumonic process was always awaited before operation. Thin streptococcic pus was nearly always treated by aspiration, for a resection in the presence of this organism, especially in infants, usually ends fatally, especially if the case is of an acute fulminating type.

In all our hospital services the *modus operandi* was pretty much the same, varying only in certain minor details. The anesthetic was either ether, gas and oxygen, ether-gas-oxygen, or local. We believe local anesthesia or gas and oxygen to be the best. Local anesthesia was successfully used upon a baby only four months of age, and to good advantage in older children. Two cases of rib resection under ether anesthesia were followed by pneumonia. The general method pursued was to overcome the respiratory and circulatory embarrassment by repeated aspirations until the effusion became thickened, formal resection being deferred until nature had an opportunity to prevent its spread by the establishment of barriers in the form of adhesions.

Usually the eighth, ninth, or tenth rib in the postaxillary line was resected, and fenestrated rubber tubes, usually two in number, were inserted into the wound at the time of operation. It is very important that these tubes be placed so that drainage will be at the most dependent point. If a patient was considered too sick for immediate rib resection, either on account of an existing pneumonia or lack of localization of the empyema or septicemia, aspiration was performed, or a trocar was plunged into the pleural space under local anesthesia, and after threading a catheter through the trocar the latter was removed. The drainage thus afforded was continued until formal rib resection was deemed expedient.

In about one third of the cases at the Episcopal Hospital, irrigations were done at the time of operation, and in about nine per cent, after operation. We have gained the impression, however, that irrigation neither hastened convalescence nor shortened the stay in the hospital, nor did it do any material harm, although we have seen cases where irrigation as an after-treatment seemed to cause quite a septic temperature, for when the irrigations were discontinued the temperature speedily came to normal.

The sudden withdrawal of large amounts of fluid from the chest was avoided at all times, in order to prevent sudden changes in circulation and respiration, lest the heart and lungs might be unable to adjust themselves to these changes of volume and pressure. Violent paroxysms of coughing and cardiac irregularities were observed when pus in large quantities was withdrawn too suddenly. The patients were placed upon the abdomen during the resection, because in this position there is less liability to paroxysmal coughing, and the lungs are given a much better opportunity to function.

Both in infancy and in childhood pneumococcic empyema with thick pus and fibrin will usually be found to be walled-off and localized by dense adhesions. In this type of case, rib resection is indicated, the empyema cavity can then be gently swabbed out with gauze, and all the loose fibrin clots removed. The massive type, however, requires aspiration before resection. The prognosis in these types of pneumococcic empyema is very favorable, the mortality being only about five per cent.

Our experience at the Philadelphia Hospital for Contagious Diseases was most instructive. The cases in which a resection was done all ended fatally, whereas those that were aspirated or had intercostal drainage all recovered. The type of operation depended also upon the character and amount of pus obtained by aspiration. Thin, streptococcic pus, such as often follows influenzal pneumonias in infants, was always a contraindication for resection, not only because of the danger of collapse of the lung due to lack of adhesions, but also because of the risk of secondary infection which in some instances sets up a more acute inflammation than the original one.

As soon as feasible, the fenestrated rubber tubes can be shortened a few centimeters at a time, and finally removed. If there are no signs

of returning pyrexia, the wounds can be allowed to heal. Measures to expedite drainage are in order, such as the Woulfe bottles, blowing soap bubbles, toy balloons, whistles, etc. Young children, however, cannot be induced to use these devices.

No patient of the entire series developed acute osteomyelitis or necrosis of the ribs. We have never tried primary closure after emptying an empyema cavity, for we believe the procedure is wrong in principle. Secondary infection of an empyema wound may occasionally occur, but this incidence can be reduced to a minimum by careful attention to asepsis in dressing the wound. As already indicated, we have found irrigation to be of no great value; in fact, our experience with Dakin's and other solutions highly recommended by some authorities has been, to say the least, disappointing.

The treatment of empyema should be directed, not only to relief of the condition and prevention of death, but also to avoidance of prolonged drainage. Close attention, therefore, should be paid to other measures, such as forced feeding to overcome the tremendous loss of nitrogen due to the toxemia. The diet should be rich in calories, as recommended by Captain Richard Bell, of the Empyema Commission, the value of whose method has been well established by clinical observation. Every care should be taken to prevent scoliosis, which occurs more frequently following empyema than is commonly supposed. Two cases recently have come to our attention in which institutional care at the orthopedic department of St. Christopher's Hospital has been made necessary. In both cases, the patients had previously been of normal posture, the deformity having been produced by rib resection for empyema.

SUMMARY

1. Thirty-one per cent of all empyemas occur in children under 12 years of age. The mortality rate is 17 per cent. Empyema occurs more frequently in males, and upon the right side. In children under 12 years, the greatest number of cases occur during the second year of life.

2. Empyema follows some form of pneumonia, except in rare instances, when it is due to trauma. Primary purulent pleurisy was not seen in this series.

3. Empyema is a rare complication of the communicable diseases, having been observed only seven times in 12,290 cases. It occurs most frequently in scarlet-fever cases. However, when present, its mortality rate is high (50 per cent).

4. Operation for empyema should not be done until the pneumonia processes have resolved, and until the pus has thickened (not in the presence of thin streptococcic pus), permitting adhesions to form and the pus to become encapsulated. This at the same time gives the patient a chance to react from the negative phase produced by the toxins of the disease.

5. If rib resection is not immediately advisable, repeated aspirations will serve until the factor of safety is reached and operation may be attempted.

6. If there is any choice of anesthesia, it lies upon the side of local infiltration.

7. Aspiration of about one third the fluid is advisable before operation, so as to equalize the circulatory and respiratory mechanism. At the time of resection the pus must not be too quickly withdrawn.

8. Irrigation has little or no helpful influence upon the period of convalescence.

9. The empyema cavity should be drained at the most dependent point.

10. In postoperative treatment, the most important factors are: sufficient drainage, food rich in calories, measures to promote lung expansion, and the prevention of deformities.

11. Recovery from empyema is slow, and the disease cannot be considered cured until the sinus is healed and there are no signs of further trouble attributable to the empyema.

ABSTRACT OF DISCUSSION

ON SYMPOSIUM ON GENERAL SURGERY IN CHILDREN

JOHN J. GILBRIDE, M.D. (Philadelphia, Pa.): While a diagnosis cannot be made on a basis alone of persistent vomiting associated with constipation in a young infant, these symptoms are suggestive.

A small abdominal incision of two inches in length is all that is necessary in operating on these patients. The pyloric end of the stomach can then be delivered by introducing the index finger into the abdominal cavity. When dividing the pyloric sphincter, the point of a knife should not be used, because this might result in cutting through the mucous membrane.

JOHN H. GIBBON, M.D. (Philadelphia, Pa.): The use of local anesthesia in operations for pyloric stenosis has made a wonderful difference in the mortality. I have always felt that general anesthesia in such cases was largely responsible for the high death rate. Local anesthesia works beautifully, and I have had no more trouble with protrusion of the intestines than when general anesthesia was used. Its use also is advantageous in children with empyema.

I have long since given up rib resection. Intercostal drainage seems sufficient, and here again local anesthesia has been most satisfactory.

OLIVER C. HEFFNER, M.D. (Pottstown, Pa.): Last year I had a very desperate case of pneumonia with pus, in which I induced drainage by a catheter, with beautiful results.

WILLIS F. MANGES, M.D. (Philadelphia, Pa.): I should like to urge the importance of careful x-ray study in pyloric stenosis before any form of treatment is instituted. Another disease that is very much less common, although quite as important as any other spasmodic stenosis, is phrenospasm. While especially rare in adults, I am convinced that many such cases are the result of so-called phrenospasm, or cardiospasm from very early childhood. I had one patient with a perfectly enormous esophagus who said that he had never had any difficulty in swallowing. He did not know what normal swallowing was, because he had always had this obstruction. I have been able to demonstrate phrenospasm in quite young infants. In this type of case the child vomits almost immediately after taking its meal, while in pyloric stenosis, it is apt to vomit later, when the material is stopped at the pyloris. Foreign bodies, also, may be present in the esophagus of young babies for long periods of time without any symptoms but occasional regurgitation of food or vomiting. I have seen death result in such cases without correct diagnosis.

W. FRANK GEMMILL, M.D. (York, Pa.): I had a case in which a primary rib resection was done, but the pus continued to form, gathering in the lowermost point posteriorly on the right side. A fenestrated rubber tube was inserted after opening the intercostal space posteriorly at the lowest point, and passed through the original incision where the rib had been removed. Irrigations of weak permanganate solution were given at regular intervals by the family physician, and later Dakin's solution was used without apparent results. The patient continued to do badly. He was able to be about, but developed marked edema in both upper and lower extremities. The urine contained albumin, and he ran a rapid pulse, and it looked as though he would not recover. The tube had previously been removed. With an asepto syringe, I injected 2-per-cent mercurochrome in the lower incision, and let it run out the upper, thus filling the empyemic cavity. This was done two or three times. After two weeks the patient was hardly recognizable. The edema of the extremities and the pus had disappeared, and the sinuses were almost closed. I saw him a few days ago, and only a very minute sinus remained, with no discharge. Whether the excellent results were due to the mercurochrome or to other factors, such as an increased immunity to the infection, I am unable to state.

SAMUEL J. WATERWORTH, M.D. (Clearfield, Pa.): In quite a number of empyema cases during the last few years, we have been using irrigation, beginning with Dakin's solution for the first few days, followed with one-per-cent mercurochrome. We close the wound in a few days, and aspirate later if necessary, introducing one-per-cent mercurochrome through the trocar. At other times we irrigate locally for the period of drainage with one-per-cent mercurochrome. Our experience has been most favorable, and I have seen only three patients die of empyema during the last twelve years.

Symposium on Aural Diseases*

ETIOLOGY AND PATHOLOGY OF AURAL DISEASES

F. J. BISHOP, M.D.
SCRANTON, PA.

The prevalence of aural diseases, the damage done to hearing, the many and severe complications which endanger life and often are the cause of death, the ignorance and neglect of the sufferers and not infrequently of their doctors, and the sometimes obstinate resistance to treatment are a few of the reasons for this symposium.

In any practical subdivision of the subject, we are confronted with two great classes of cases —children and adults, constitutional and local, acute and chronic.

Brevity necessitates the omission of all diseases and conditions of the auricle and the membranous and bony canal, and permits the mere mention of the constitutional causes of aural disease: usually tuberculosis, syphilis, diabetes, anemia, and neurosis. The local conditions are much more numerous, and therefore more frequently the causative factors.

It is common experience that in children, pharyngeal adenoids head the list of causes, closely followed by the acute contagious diseases —measles, scarlet fever, diphtheria, mumps, grip, and influenza. The greater frequency of these conditions than of other causative factors explains their preëminence. Third on the list are acute rhinitis, hypertrophied and infected tonsils, nasal obstructions (such as deviations and exostoses of the septum), hypertrophied turbinates, sinusitis, and foreign bodies. Bad hygienic surroundings and lowered vitality, of course, are always with us. With the present great increase of head traumata (especially in children) due to the large number of automobile accidents, this cause must also be kept in mind.

In both children and adults, bad hygienic surroundings, lowered vitality, climatic conditions, seasons, age, occupation, and clothing may have a bearing on the etiology. Other factors are chemicals, drugs (alcohol and tobacco), dusts, sudden shock, constant loud noises, explosions, altitude, auto-intoxication, and focal infection. Curiously, lumber jacks are seldom affected, and Dr. Beaman Douglas, of New York, has given statistics showing that subway workers are more immune to colds (a common cause of aural affections) than are workers in office buildings.

Factors causing localized head conditions are traumatism, tumors, abscesses, meningitis, le-

*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1926.

thargic encephalitis, foreign bodies, and caisson work. Among the more common causative factors affecting the upper respiratory tract are acute and chronic rhinitis, septal deviations, spurs, polypi, sinusitis, hypertrophied adenoids and tonsils, hypertrophied turbinates, fractures, epistaxis following operations, douching, contagious and infectious diseases, improper blowing of the nose, sneezing, diving, swimming, and last but not least, nasal packs—anterior and posterior. Infected packs cause infection not only of the middle ear, but also of the lacrymal ducts, sinuses, tonsils, and cervical glands.

The bacteriology of the various diseases of the ear is usually the same as that of the primary focus, though the infection may be mixed. The most frequently encountered organisms are: the streptococcus, pneumococcus (particularly type 4), staphylococcus, influenza bacillus (albus and aureus), Friedländer's bacillus, Micrococcus catarrhalis, Klebs-Löffler bacillus, Bacillus pyocyaneus, Bacillus proteus, tubercle bacillus, and spirochete. The streptococcus and pneumococcus are the most frequent agents in intracranial complications.

In order to discuss the pathology of acute middle-ear suppuration, it will be necessary to review briefly the anatomy of this region. The tympanum is lined with a very thin, closely adherent membrane, and its external membrane is resistant and inelastic—the membrana tensa. Arising superiorly from the vault, almost completely separated by parts of the ossicles, are various ligaments covered by the mucous membrane. The anterior wall is where the eustachian tube enters.

Any inflammation or infection of the nasopharynx reaches the tympanum first through the tube, and is followed by the usual inflammatory changes: (1) marked dilatation and engorgement of the vessels of the lining mucous membrane; (2) transudation of serum, and migration of leukocytes into the tissue, resulting in a thickening or swelling which in turn more completely separates the tympanum from the vault; (3) thickening and swelling of the mucous membrane of the bony part of the tube, closing the tube and, with the effusion of serum or formation of pus, causing pressure. The membrana tensa, being least resistant, spontaneously ruptures. After the rupture has occurred, pressure is removed, and the patency of the tube is restored, creating a condition favorable to resolution. If drainage is insufficient, due to a too small perforation or the persistent blockage of the tube or some of the walled-off spaces, the infection continues, resulting in delayed resolution, or a chronic suppuration, or some of the various complications such as polypi, granulations, cholesteatoma, caries, ulceration, necrosis, mastoiditis, sinusitis, the various forms of labrynthitis, eighth-nerve neuritis or paralysis, or intracranial complications.

SYMPTOMATOLOGY IN AURAL DISEASES

EUGENE A. CURTIN, M.D.
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Given an acute purulent otitis media, with drainage established reasonably early and proper management instituted, it is to be expected that in the very great majority of cases, within the course of one to four weeks, a favorable outcome will be reached and the ear will return to normal. Unhappily, in many cases in which treatment has been neglected, and also in some few which have received from the very first the benefit of sound medical attention, complications of the most harrowing nature may arise. It, therefore, is incumbent upon the medical attendant who first sees an acute suppurative ear to remember that every infected ear contains potentialities which may develop into a dangerous condition, which may bring fatal results to the patient and considerable disappointment to the attending doctor.

To be forewarned is often to be forearmed; therefore, on the very first occasion stock should be taken of the condition present in order that complications may be forestalled if possible, or if not possible, that they may be met by prompt treatment. Four principal factors are to be considered: (1) the history of the case; (2) the local condition itself; (3) the condition of the nose, nasopharynx, and throat; and (4) the type or types of organism that are the cause of the infection.

(1) In the history of the case, the antecedent of the local condition must be elicited. Is it the aftermath of scarlet fever, measles, or influenza—diseases which are so prone to cause severe aural infection with resultant complications? Has it followed a pneumonia, a typhoid, or an acute illness that has left the patient in a run-down physical condition and in a state of weakened resistance to pyogenic organisms? Is diabetes, syphilis, or tuberculosis present? The duration of time, from the onset of the first symptoms attributed to the ear to the spontaneous opening of the drum or to the myringotomy, must also be considered, for a middle ear that has contained pus for several days is more liable to have sustained serious damage than one

that has been opened in the first few hours of the infection.

Some signs of the severity of the disease may be gained by a thorough examination of the ear. If a perforation is present, is it of sufficient size to insure thorough drainage of all of the purulent secretion of the middle ear? Is there excessive congestion and great bulging in Shrapnell's membrane, or is there early swelling and congestion of the posterior superior canal wall that would make one suspect a severe infection in the mastoid? The character and amount of discharge are to be noted. The examination of the drum may in some cases be misleading. Atypical mastoiditis may be accompanied by very little change in the drum. In infections caused by the Streptococcus mucosus capsulatus, innocent changes may lull one into a false security that future events may unhappily dissipate.

In children, oftentimes very little change is noted in the drum. R. Southby makes the rather startling report that in 50 consecutive necropsies, 32 of which were in children under two years, he found 33 instances of gross purulent infection of one or both ears. In 29 of these cases, both drums were intact, and no bulging or redness of the tympanic membrane had been noted in examination of the living patients. Eleven deaths were due to meningitis of otic origin. In many cases, however, some information of prognostic value may be secured from an examination of the drum and canal.

The condition of the nose, throat, and nasopharynx oftentimes gives valuable information as to the course the disease will take. The presence of adenoids blocking the eustachian orifice and infected tonsils dispatching infection to the middle ear, is certainly more conducive to a long-drawn-out and complicated ear disability than where the nose and throat are normal. The same applies to septal deflections, turbinal hypertrophies, and infected sinuses. An idea of the condition of the eustachian tube should be gained.

A study of the bacterial flora of an acute ear infection should be made at the first opportunity. While it is true that any kind of microörganism may be the cause of any complication following a middle-ear infection, it seems to be generally accepted that some bacteria are more prone to complications than are others. Dr. Kerrison thinks that the streptococcus is unquestionably responsible for the majority of the cases of intracranial infections, and Libman, and also Bezold, found the streptococcus to be the offending organism in nearly all cases of sinus thrombosis that were studied by them.

The finding of the streptococcus hemolyticus would cause one to view with more alarm the future outcome than would be the isolation of the staphylococcus. If that harbinger of complications, the Streptococcus mucosus capsulatus, should be present, one would be fearful lest a stormy outlook might be impending, since the seriousness of the ensuing complications is, in many cases, out of all proportion to the mildness of the local condition.

There is no symptom or set of symptoms in an acute ear infection that gives positive warning that a complication is to take place. Nearly every ear, in fact, might be considered to be complicated to some degree, for certainly in a large majority of cases there are at least some pathological changes in the mastoid cells. These cases of mild involvement in the mastoid that clear up simultaneously with the recovery of the middle ear will not be considered as complicated. If we except those rather unusual cases in which intracranial infection is blood-borne directly from the tympanic cavity, and those through the labyrinth and inner ear, all of the grave complications are first preceded by mastoid involvement. Therefore, the obtaining of an exact knowledge of the condition in the mastoid is the important factor in preventing intracranial and blood-stream infections, and a study of the symptoms of the middle ear must be intimately associated with a study of the signs and symptoms that originate in the mastoid.

Twenty-four or forty-eight hours after an acute ear is opened, there should, if all is going well, be some change in the aspect of the patient. He should report that his general well-being has been improved since the ear began to discharge. Inversely, if his general condition has not improved but rather grown worse, and if he seems to have apprehensions as to the future, one might suspect that all is not going so well as it should.

Fever is probably as often absent in acute ear conditions as it is present, but if it is present, a study of its course should throw considerable light on the progress of the case. If it does not return to normal after drainage is established, if each succeeding day brings higher elevation, if it assumes a septic type with considerable excursion between the high and the low point, and especially if it is accompanied by chilly sensations or sweating, the physician might surmise that complications are threatening, if not already established. The pulse rate does not give much information one way or the other, except the abnormally slow pulse, which is present when an intracranial complication is an assured fact.

While not a few cases develop mastoiditis and its resultant complications without much pain or discomfort, the persistence of pain or insomnia

several days after efficient drainage is established is a disquieting sign. Constant deep pain in the ear or mastoid, showing no signs of improvement, is a symptom not favorable to an uncomplicated course.

Tenderness on pressure over the mastoid is a very valuable sign. In some atypical cases, tenderness may be lacking, but this is unusual. In nearly all cases, comparison of the two sides and pressure while the attention of the patient is distracted will yield important information as to the condition in the mastoid. As in many cases of otitis media, there is considerable tenderness over the antrum. Sensitiveness at this location would not be especially alarming, but if there is persistence of tenderness at the tip or over the location of the sinus, the chances of the case clearing up without complications would not be so good.

The condition of the drum and canal should show progressive improvement after drainage has been effected. Failure to improve after several days, and definite sagging or bulging of the posterior superior quadrant, are very suspicious signs that a surgical mastoiditis is quite likely present.

Some leukocytosis is nearly always present in the beginning of all acute ear cases, but persistent leukocytosis, and more particularly a marked increase in polymorphonuclear cells, are indices of complications. A polymorphonuclear count of 70 per cent or more is usually associated with bony necrosis.

Sudden cessation of discharge with other symptoms increasing, or a discharge of so copious a nature as to be inconceivable of its being manufactured in the middle ear alone, is an unfavorable sign.

X-ray pictures, if well taken and expertly interpreted, are a very great aid in following the course of the disease. They will show the type of mastoid; whether it is one of sclerotic nature, in which graver conditions are more liable to follow than in one composed of large cells, which may undergo resolution without operative interference, as the drainage in such a mastoid is not impeded as frequently as in the sclerotic type. The x-ray should show if the infection has extended beyond the antrum, if cavity formation is taking place, if the tip is involved, and especially if there is bony necrosis about the sinus plate. Epidural abscess may in some cases be diagnosed. Exposures a few days apart should show the progress and give hints in time to prevent serious complications.

The degree of impairment of hearing is not of much value one way or the other, as there may be great impairment in mild cases and little in serious ones. Functional tests, except in rather unusual cases of lost bone conduction indicating inner-ear involvement, are of little diagnostic value.

The ocular signs and pathological changes in the spinal fluid are late symptoms, and are found when the intracranial condition is present, and it is too late to prevent the trouble.

An ear that has resisted all means of medical treatment for a period of several months, without the cessation of the discharge, may be classified as a complicated ear condition, for it is quite likely that the condition is not confined to the middle ear alone. It is in these chronically discharging ears that grave cerebral conditions are more often encountered even than in the acute cases. Dickie, in a series of 3,918 cases of middle-ear suppuration, found 2.19 per cent of cases with intracranial complications. Brain abscess occurred in about four cases in every thousand. It was noted that intracranial complications occurred in chronic cases more than twice as often as in acute cases. Other observers believe the percentage to be even higher.

It is, therefore, in the chronically discharging ear that the recognition of danger symptoms and the institution of proper treatment are of the greatest import as preventive measures. Too many such patients are walking about with little thought or care for the serious trouble that may eventually be caused by the condition, and not a few of these cases, with symptoms that definitely prognosticate grave outcomes, are allowed to continue by the medical attendant with only palliative measures.

Two distinct types of chronic mastoiditis are described by Dr. S. MacCuen Smith: the first, in which the discharge is present at all times, although it may be so scant as to attract little attention from the patient; the second, a type characterized by acute exacerbations of the chronic condition. Of the two, the recurrent form is the more dangerous, as it is from this group that the large majority of intracranial complications arise. It may easily be seen that in these cases with a sclerotic mastoid, an acute flare-up, with possibly a new strain of organisms engrafted on the old, would be especially liable to give rise to grave conditions.

Examination of the ear in a chronic infection may show some signs of bone necrosis. Bare bone may at times be found by gentle use of the probe. The location of the perforation may furnish useful information, for marginal perforations are more often associated with bone necrosis than central ones, and it is only in marginal perforations that cholesteatomata are found. If

a polypus is attached to the inner tympanic wall, or if symptoms of vertigo, headache, or vomiting are caused when the polypus is disturbed, or if it recurs after thorough removal and efficient after-treatment, this should be regarded as evidence that we are dealing with an ear that should receive radical attention to avert serious sequelæ. Persistent or recurrent attacks of pain, mastoid tenderness, headache, vertigo, vomiting, or tinnitus are suspicious signs in a discharging ear. Recurrent attacks of elevated temperature with lassitude, anorexia, and insomnia, if other general conditions can be ruled out, point to a smouldering aural condition that portends future trouble. Very foul-smelling pus, especially if blood-streaked, may be regarded as due to bone necrosis. Microscopic examination of the discharge of the tympanic cavity may show cholesterin crystals, and would make one certain that only radical means could be of any use.

Facial paralysis, while a serious complication in itself, may also be considered as a forerunner of even graver complications, and effective means should be taken to clear up the condition.

Marked vertigo, absolute deafness in a discharging ear, a positive fistula test, or evidence of a dead labyrinth elicited by the rotation, galvanic, and caloric tests, all show that a serious complication has already taken place.

The prevention of complications, therefore, rests upon the correct interpretation of the symptoms in a suppurating ear, and in taking efficient means of curing the disease before the brain, meninges, or general circulation are involved. While in most acute ear conditions the picture is clear-cut and the diagnosis easy, there are, nevertheless, many that are of the quiet or masked type, where both the general and local signs are slight in comparison with the seriousness of the situation, and it is in these cases that the correct interpretation of all symptoms should give a fairly accurate estimate of what is taking place and what the future will hold. Good judgment and the knowledge gained from the correct reading of the symptoms, laboratory findings, and the x-ray in acute and chronic suppurative ear conditions, will in some cases prevent needless operations, and in others fortify the hand and heart to even the most radical means in order to forestall fatal results.

TREATMENT OF AURAL DISEASES

ERNEST U. BUCKMAN, M.D.

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In the preventive treatment of aural diseases that are most likely to lead to complications, early intervention is the main feature.

Acute otitis media is the most common of these conditions. It is always the beginning of a series of events that may lead to mastoid abscess, meningitis, brain abscess, sinus thrombosis, and death. Taken at the earliest stage, it may be a very simple matter. Pain, the principal symptom, can always be relieved by the application of heat, which also sometimes allays the inflammation, and seems to prevent the formation of an abscess. I order one dram of chloroform in one ounce of olive oil, to be used as hot as can be borne, and direct that the ear canal be kept filled with this mixture. The hot-water bag or electric heating pad may do as well, or better. Heat is the important thing; but it should be used in a very early stage, and not more than a few hours unless there is marked relief.

It is much more usual to get the patient when there is evidence of fluid in the middle ear, and then puncture of the drum membrane is the only procedure worth while, and the results are generally very satisfactory. The size and shape of the opening does not seem to make much difference, so long as it is in the lower portion of the drum membrane, and posterior, to favor drainage. Puncture of the drum membrane is equally useful when not imperative; i. e., in painful redness of the membrane, before fluid has accumulated in the middle-ear cavity. It gives almost instant relief, and is usually not followed by any discharge.

The treatment after puncture of the drum membrane is important. External heat applied to facilitate discharge, and dry cleansing are usually all that is necessary. A syringe or any form of flushing should not be used in an acute inflammation of the ear.

Care of the nose, nasopharynx, and throat is important to prevent acute inflammations. In my experience, an acute otitis as the result of causes operating through the external auditory canal has not been observed, except from traumatism, either by a direct blow, or by a foreign body in the ear.

Spurs and deflections of the nasal septum should be eliminated by submucous resection in adults, and diseased or hypertrophied tonsils removed in adults and children. Since the removal of tonsils and adenoids in children has become so universal a practice, we meet much less acute otitis, and never in a patient with a perfect nose and throat.

But, we do not see all our patients early enough. In many of them, the drum membrane

is allowed to rupture spontaneously and the discharge to continue for weeks or months, and relief is not sought until there is what we call "threatened mastoid abscess." It is probable that the mastoid cells are always involved in a chronic otitis, but that drainage may be so complete in many cases that they do not come to operation.

It is my belief that mastoid abscess not infrequently follows the injudicious use of the ear syringe or some form of flushing. The use of this form of treatment should be condemned. Dry cleaning with cotton on an applicator under good illumination has given me the best results. Home syringing of a suppurating ear in any stage is absolutely wrong. A syringe should never be used except by the doctor, and then only to remove foreign matter other than fluid pus, and followed by very careful drying with cotton. Long-standing discharges cease and dry up very promptly when syringing is stopped.

The complication to be feared, of course, is mastoid abscess. Again, early intervention is most important. The sooner the diagnosis is made the better, and it can be made without the classical symptoms—redness, pain, and swelling over the mastoid process.

Early operation is most essential if complications (meningitis, brain abscess, and sinus thrombosis) are to be prevented. There is no excuse for waiting until the operation is imperative. I have never regretted opening an abscess early, perhaps too early, if that is possible. More than once I have regretted delays, waiting for positive symptoms that make the diagnosis so simple a layman can make it. Complications or any bad effect following an early operation have not fallen under my observation, but after brain abscess or meningitis has developed, it has been too late to save the patient.

Another condition, less grave but perhaps more troublesome, that leads to complications, is a dry scaly condition of the auditory canal which may be called an eczema, and which always precedes furunculosis. Treatment of either the condition or the complication is most discouraging and unsatisfactory.

Cleansing and application of an antiseptic thin oil, or antiseptic ointment, is the usual procedure. The best results are obtained by using cresatin or tincture of iodin, after removing the scales from the canal, and also after the boil has formed and been incised and discharged. More recently, mercurochrome has been used, and seems to be of benefit in some cases. In my experience, dry heat has been the only remedy which gives relief until the furuncle is in condition for incision. An autogenous vaccine might be useful where there is frequent recurrence, which is not unusual.

CONCLUSIONS

1. Early treatment of acute inflammation and early operation in mastoid abscess are most important.

2. Patients should be taught that an acute rhinitis is not "just a cold," and that improper blowing of the nose may cause much trouble.

3. The family doctor, who usually sees the patients first, must be taught that earache is not just a pain, and that a child is not likely to live long enough to "outgrow" a running ear.

ABSTRACT OF DISCUSSION

ON SYMPOSIUM ON AURAL DISEASES

S. MACCUEN SMITH, M.D. (Philadelphia, Pa.): I have long since advocated that the terms "puncture" and "paracentesis" be banished from otologic literature, inasmuch as a strict interpretation of these terms does not convey a correct idea of the operative procedure. The words "incision" or "myringotomy" would be preferable because of the fact that a simple puncture will not efficiently drain the average ear.

JOHN F. CULP, M.D. (Harrisburg, Pa.): An important addition to our armamentarium in the treatment of ear diseases is the glass tube with a rubber bulb on the end for creating mild suction. This aids in ridding the ear of a good deal of the debris. I find that whenever it is used after incision, the discharge and the general condition of the patient improve much more rapidly than when it is not used.

DR. BUCKMAN (in closing): In cases where there is no fluid in the middle ear, simply an inflammation of the membrane, a simple puncture does seem to help. But in those cases where an opening is made for drainage, we do much more than a puncture. The operation might be called an incision or a myringotomy. Perhaps "puncture" is a misuse of the term.

Symposium on Chemistry and Internal Medicine*

THE INCREASING IMPORTANCE OF CHEMISTRY IN INTERNAL MEDICINE

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In considering the development of biology and medicine during the nineteenth century, it is evident that one of the dominant features was the extension and application of the concept of the cell as the unit of biological structure and function. That century saw the rewriting of anatomy in terms of the cell as the unit of structure, with the development of the science of histology.

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

During the same period, physiology was rewritten in terms of cell function, giving us new concepts of muscle, nerve, excretory, and secretory physiology. Pathology, pharmacology, and our conceptions of disease came to be cast in terms of the cell as the biological unit. Finally, the most striking contribution of cellular biology was probably the work of Pasteur and his successors in the linking of infectious disease with invasion of the organism by foreign unicellular organisms. This was associated with the rise of the sciences of bacteriology and immunology, on the basis of which rest such great advances in medicine as aseptic surgery, sanitation, and many of our public-health measures.

During the closing decades of the century there arose as the result of the application of the principles and methods of physics to the field of chemistry the science which we designate as physical chemistry. This science has given us new concepts of the structure of the atom, of the molecule, and of aqueous saline solutions where each molecule is split into two or more components, the basic fractions Na^+, K^+, Ca^{++}, Mg^{++}, etc., carrying positive electric charges and designated *cations,* and the acidic fractions, Cl^-, $SO_4^=$, $HPO_4^=$, etc., carrying negative charges and designated *anions.* Physical chemistry has defined to a considerable extent the laws governing the reactions and the equilibria under given conditions between these atoms, molecules, and ions.

During the same period, the study of matter in that condition which we know as the colloidal state, a state in which molecules are aggregated into groups having many times the mass of a single molecule, has given us some of the laws governing colloidal behavior. The significance for biology of this advance lies in the fact that all living cells and tissues consist of matter in the colloidal state.

These two developments, physical chemistry and colloidal chemistry, have opened the way toward a new point of view with respect to living organisms. They make possible the attempt, which is as yet hardly more than begun, to consider the structure of living organisms in terms of their component atoms, molecules, ions, and colloidal micellæ, and to consider the activities of living organisms in terms of the interactions between these atoms, molecules, ions, and colloidal aggregates. This means rewriting anatomy in terms, not of cells, but of these chemical units, and rewriting physiology in terms of the interactions between these chemical units. It looks toward the development of what in distinction to cellular biology may be designated as molecular biology. This molecular biology is being applied in the fields of pathology, of bacteriology and immunology, of pharmacology, and in our clinical conceptions of disease.

The development of this field has as yet, however, only commenced. To predict the practically valuable contributions which will accompany its continued extension is of course impossible, and to speculate would be futile. One has only to consider, however, the stimulus that came to biology and medicine during the past century from the extension and application of the concept of the cell as the unit of structure and function to be led to expect no less startlingly useful contributions to medicine during the coming decades from the extension and development of what I am designating as molecular biology.

It is this promise of future development of molecular biology which constitutes, it seems to me, the most important field of chemistry in medicine. It is this especially which justifies the increasing stress laid upon the adequate knowledge of physics and chemistry as a prerequisite to medical education and which explains the increasing importance of chemistry in physiology, pathology, pharmacology, and in the researches and instruction conducted in our clinics.

135 S. 17th Street.

THE RELATION OF THE CHLORIDS OF THE BODY TO DISEASE OF THE GASTRO-INTESTINAL TRACT*

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Investigation in recent years has resulted in the attaching of increased importance to the rôle of the chlorids of the various body fluids in determining their physicochemical properties. The part played by chlorid, in the form of HCl, in gastric digestion and motility, and probably in regulating motor and secretory activity of the upper small intestine, is of course well known.

Chlorids exist normally in the plasma in a fairly constant concentration ranging from 100 to 108 millimols (this method of expressing concentration uses the same units as those ordinarily employed in designating the degree of free and total acidity of stomach contents, and is equivalent to expressing the concentration in c.c. of 0.1 N per 100 c.c.). The sodium of the plasma normally constitutes about 93 per cent of the total fixed base of the plasma in man, while

*From the Medical Division of the Hospital and the John Herr Musser Department of Research Medicine, University of Pennsylvania.

the Cl ions form about 65 per cent of the total acid radicles. The chemical structure of the blood and the factors in the acid-base balance may be graphically represented in Figure 1, which is taken from Gamble and Ross.

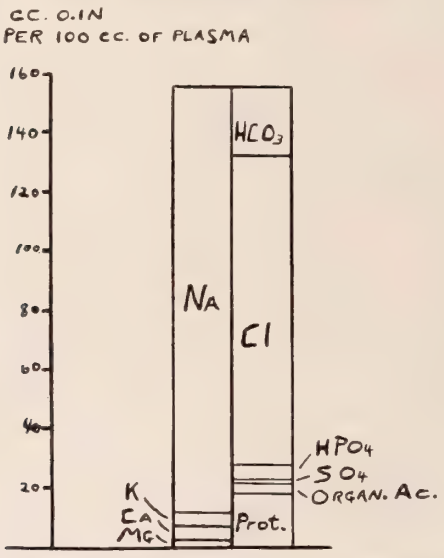


Fig. 1. Diagrammatic representation of the chemical structure of normal human blood (from Gamble and Ross).

Chlorin is excreted in the urine in the form of chlorids, the chief balancing base being sodium, in amounts varying with chlorid intake, but generally between 6 and 9 gm. of Cl per day.

Normally, the concentration of chlorids, partly as HCl and partly as NaCl, in pure gastric juice, as secreted, varies from 140 to 170 millimols (chlorin). The concentration in gastric contents, as removed after a test meal for titration, is from one-third to two-thirds this figure. Besides its importance as HCl in providing a favorable environment for the digestive action of pepsin, and probably also in regulating certain phases of pyloric action, it also acts as a destroyer of many of the bacteria which gain access to the stomach. The method of formation of the HCl of the gastric juice is not known. Experimental evidence points toward the formation of the acid at the membrane of the cells of the gastric glands, the Cl being derived from the chlorid of the blood and possibly passing through the cell membrane either as HCl or as a chlorid of some weak base, later to be converted into HCl. The chlorid concentration of the gastric mucosa is somewhat greater than that in other tissues, but the amount stored is a small fraction of that secreted. Complete chlorid starvation must be maintained for a long period before the HCl of the gastric juice disappears.

In cases of achlorhydria not associated with carcinoma of the stomach, the concentration of chlorid in the chyme has usually been found lower than normal. In cases of gastric carcinoma, the chlorid concentration of the gastric contents has often been found higher than in benign achylias, but not with sufficient constancy to make this finding of diagnostic importance. Such differences are shown graphically in Figure 2, which represents variations in Cl concentration in a group of cases reviewed by Grund.

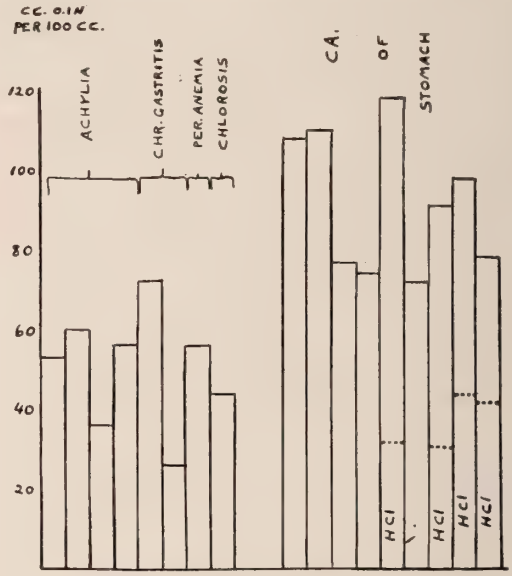


Fig. 2. Chlorid concentration of gastric contents in various types of disease (Grund. Wiener).

This disproportion between the Cl concentration and the HCl present has been attributed to neutralization of secreted HCl, or to primary secretion of NaCl resulting from altered permeability of the gastric glands. Recent studies in the Department of Research Medicine at the University of Pennsylvania have shown chlorid concentration within normal limits in a series of cases of achlorhydria, with a constant decrease for from 15 to 60 minutes after a test meal, whereas chlorid concentration rose during corresponding periods in persons with normal gastric juice. This would suggest that in the anacidity cases a dilution of the gastric contents had occurred not only by the test meal, but also possibly by the secretion of a fluid low in chlorid content.

The striking constancy with which achlorhydria accompanies pernicious anemia has led to various theories as to the relationship between the two conditions. The hypothesis has been suggested by some writers that the absence of HCl in the stomach permits the viability of organisms whose toxins are absorbed from the intestine and produce the changes characteristic of pernicious anemia. It has been suggested (Vanderhoof) that the same agent may, under different

circumstances, produce pernicious anemia, posterolateral sclerosis, or the two combined. It has been pointed out that achlorhydria preceded and accompanied a group of cases showing posterolateral sclerosis but no blood changes, and Vanderhoof has reported clinical improvement in several of these patients following the administration of HCl over a period of time. In these cases, as in other types of achlorhydria, the chlorid concentration of the stomach contents is probably often below normal, especially during digestion.

Whether or not the achlorhydria of pernicious anemia has any etiologic importance, there is reason to suspect that the absence of HCl impairs the efficiency of gastric digestion and may sometimes be responsible for the annoying symptoms, such as nausea, anorexia, vomiting, etc., as well as the diarrhea which is often seen in this disease. This being true, and in view of the possible importance of HCl as a bactericidal agent in the stomach, the administration of dilute HCl, preferably in combination with pepsin, has been advocated in pernicious anemia. Recent observations at the Hospital of the University of Pennsylvania tend to show that the usual clinical dose of dilute HCl (1 c.c., or xv minims) has no effect upon the titrable acidity of the chyme after a test meal. Figure 3 shows the effects of 4 to 8 c.c. doses upon 5 cases of anacidity.

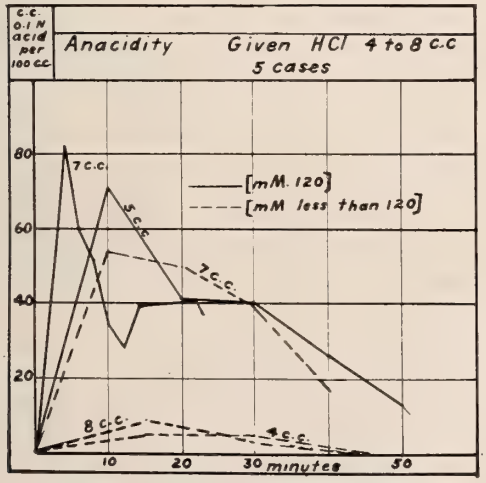


Fig. 3. Effects of acid administration (4-to 8-c.c. doses) in five cases of anacidity.

In the treatment of achlorhydria we recommend routine doses of 4 to 8 c.c. of dilute HCl as the most practicable. It should be noted that there is no evidence that continued administration of HCl has any effect upon the supply of pepsin or upon the ability of the achlorhydric stomach to secrete HCl.

Experimental and clinical studies on the chemical changes in the blood following obstruction of the upper small intestine and pylorus have demonstrated certain striking alterations in which the total chlorid concentration of the blood plays an important part. It has been shown experimentally (Haden and Orr, Felty and Murray, Gamble and Ross, McCollum, and others) that following obstruction of the duodenum and pylorus in dogs, rabbits, and monkeys there is almost constantly a fall in blood chlorids (the chlorids being in part replaced by bicarbonate, with a resulting alkalosis) and a rise in blood-urea nitrogen and nonprotein nitrogen. Often there is marked dehydration, vomiting, and sometimes tetany. There is also frequently an increase in urinary nitrogen and a decrease in urinary chlorids. Death, of course, always followed an unrelieved obstruction. These findings have been confirmed by similar observations in cases of pyloric and upper-intestinal obstruction in man.

By the administration of NaCl with sufficient water, the changes in blood chlorids following experimental obstruction in animals may be prevented, or if they have already supervened, may be altered toward normal, and life may be maintained 6 to 8 times longer in these animals than in animals with obstruction but which were not given saline. NaCl has been used in a few cases of upper gastro-intestinal obstruction in man (Haden and Orr) with encouraging results. The characteristic changes in blood chlorids, bicarbonate, and urea have been lessened, and the general condition of the patient has at least temporarily improved. On the other hand, experimentally, glucose, distilled water, HCl, and a variety of other chlorids and saline solutions, as well as pilocarpin and atropin, have had no such favorable effect upon the blood changes or upon the clinical course. Apparently only NaCl solution has produced such beneficial results.

Different suggestions have been offered as to the mechanism of the beneficial action of NaCl, and the significance of the fall in blood chlorids after upper gastro-intestinal obstruction. Haden and Orr suggest that the chlorids of the body have a specific antagonistic action on a toxin produced in the obstructed gut, and that this accounts for the utilization of the blood chlorids and the efficacy of administered NaCl. Gamble and his associates find that there is a loss of chlorid into the stomach both as HCl and as NaCl after pyloric or duodenal obstruction, and suggest that it is the loss of the sodium with attendant diminution of the total salt concentration of the blood which proves fatal, if not re-

stored to normal by the administration of Na in the form of NaCl.

SUMMARY

1. Chlorids, both as HCl and as NaCl, are of prime importance in normal gastric, and probably also in upper intestinal, physiology.

2. A deficiency of chlorid, at least as acid, and perhaps also as salt, in the stomach, is a constant phenomenon accompanying pernicious anemia, and probably accounts for many of the gastro-intestinal symptoms associated with the disease.

3. Administration of HCl is a reasonable therapy in pernicious anemia for improving conditions for peptic action, whether or not it also exerts a bactericidal activity.

4. The chlorids and the sodium of the blood are depleted in acute pyloric or upper-intestinal obstruction.

5. Administration of NaCl in these cases appears to exert a beneficial action on the course of the condition, and may be considered an adjunct to surgical treatment.

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THE ELIMINATION OF CARBON MONOXID FROM THE BLOOD

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The symptoms attending the partial or complete saturation of the hemoglobin of the blood with carbon monoxid are too well known to require detailed comment. With as little as 40 per cent of the hemoglobin combined with carbon monoxid there may ensue deep coma, and marked central-nervous-system symptoms, with ankle clonus, positive Babinski and Kernig signs, and often death. Occasionally the blood becomes free of carbon monoxid, the coma terminates, but the patient subsequently sinks into coma again and dies, probably as a result of central-nervous-system damage.

The exact explanation of this train of symptoms is not entirely clear. Presumably the effects of carbon-monoxid asphyxia are those of anoxemia, for, as is well known, anoxemia long continued results in irremediable damage to nerve tissue. This anoxemia is not due primarily to a reduction of the total oxygen of the blood, as is commonly supposed, but rather to a marked lowering of the partial pressure at which oxygen is available for tissue metabolism. As will be shown subsequently, this effect is the result of a marked alteration in the form of the oxygen-dissociation curve of blood by carbon monoxid. In the light of this alteration, the desperate condition of a subject whose blood is half saturated with CO, as contrasted with the comparatively comfortable condition of one who, as in anemia cases, has merely lost half his hemoglobin, is understandable.

Carbon monoxid, as contrasted with oxygen, has a peculiarly great affinity for hemoglobin. A very small concentration of carbon monoxid in the alveolar air will keep the blood highly saturated with CO. CO at a few millimeters of partial pressure has the same combining capacity as oxygen at a partial pressure of several hundred millimeters. This peculiarity of CO is as yet unexplained, but it enables a small concentration of carbon monoxid in the alveolar air to keep the blood highly saturated with CO, and so leads to dangerous asphyxiation. Conversely, the recovery of asphyxiated subjects is slow. The elimination of CO from the blood depends upon the reversal of the reaction.

$$Hb + CO = HbCO$$

Under the ordinary circumstances of recovery, the conditions favor the establishment of an equilibrium toward the right. The blood gives up a small amount of CO to the alveolar air, but this small amount is sufficient to reëstablish equilibrium at a point close to the original saturation. Part of the CO is removed from the alveolar air at each respiration it is true, but as a rule the respirations are depressed. A kind of vicious cycle is set up. The two factors, great affinity of CO for hemoglobin and subnormal respiration, lengthen the time of recovery to hours. Unless the CO be rapidly eliminated in a subject with over 60 per cent of saturation, death usually occurs.

The inhalation of CO_2 with pure oxygen effects this rapid elimination. First used by Henderson (1921), its use in many hospitals and particularly in mine rescue stations has demonstrated its value.

Henderson and subsequently Yant and Sayre (1922) showed in experimental animals and subjects that the addition of CO_2 to the air or oxygen inhaled shortened the time of elimination of CO frequently to as brief a time as one-half hour. These investigators attributed the action of CO_2 to the increased pulmonary ventilation which it caused. This increased ventilation washed out the CO from the alveolar air rapidly, hastening the elimination from the blood by lowering the alveolar CO pressure to a minimum. But increased ventilation may not be the sole or even the important factor operating when CO_2 is inhaled by asphyxiated animals. The increased hydrogen-ion concentration of the blood during

CO_2 inhalation must be taken into account, and this was not considered by either Henderson or Yant and Sayre.

Theoretical considerations of the equilibrium relations of oxyhemoglobin, reduced hemoglobin, carbon-monoxid hemoglobin, oxygen-carbon monoxid, and hydrogen-ion concentration, supported by experimental evidence, have enabled us to predict that an increase of the acidity of the blood by any agent, ventilatory rate remaining constant, would result in an increased rate of elimination of CO from the blood. Experimental rates of elimination under these conditions were found to be quite in accord with the prediction.

In addition, the relations developed showed that the primary effect of carbon monoxid was a profound alteration of the oxygen-dissociation curve, which, rather than the mere loss of functioning hemoglobin, was the cause of the anoxemia.

Effect of Change of pH of the Blood on the Oxygen-Dissociation Curve in Carbon-Monoxid Poisoning

By means of an equation developed by Stadie and Martin (1925) and substantiated by *in-vitro* experiments on blood, the oxygen-dissociation curve of whole blood may be drawn when the blood is constantly saturated with CO to any definite and fixed degree. Fixing the CO saturation at 50 per cent, we have for an average human blood the following normal conditions as contrasted with an acidotic condition easily attained by inhalation of CO_2.

	I	II
pH	7.4	7.0
K_o	0.001	0.0009
$K_{o_2/o}$	250	250
n	2.2	2.2
HbCO	50%	50%

In figure I are shown the curves for these two conditions, calculated from the equation.

Figure 1 also shows that the presence of CO has changed markedly the form of the oxygen-dissociation curve of that part of the hemoglobin uncombined with CO. The effect of this alteration upon the rate of elimination of CO from the blood, as influenced by increasing the hydrogen-ion concentration only, is clearly seen from the following:

At point A we have from figure 1

$$\begin{aligned} pH &= 7.4 \\ HbCO &= 50 \text{ per cent} \\ HbO_2 &= 40 \text{ per cent} \\ P_{co} &= 0.147 \text{ mm. Hg.} \\ P_{o_2} &= 30 \text{ mm. Hg.} \end{aligned}$$

Lower the pH to 7.0 and maintain the oxygen tension constant. Then at point B we have

$$\begin{aligned} pH &= 7.0 \\ HbCO &= 50 \text{ per cent} \\ HbO_2 &= 32 \text{ per cent} \\ P_{co} &= 0.167 \text{ mm. Hg.} \\ P_{o_2} &= 30 \text{ mm. Hg.} \end{aligned}$$

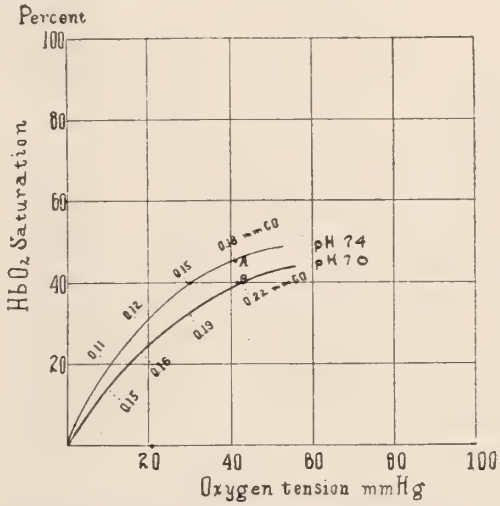


Fig. 1. Oxygen-dissociation curve of blood 50 per cent saturated with CO and pH 7.4 and 7.0, showing the effect of acidity on the partial pressure of CO.

At constant oxygen tension, a lowering of the pH requires an increase of

$$\frac{0.167 - 0.140}{0.167}$$

or 20 per cent in the carbon-monoxid tension to maintain the blood at 50-per-cent saturation with CO.

If, as is the case in the lungs during recovery from asphyxia, the P_{co} remains constant, it is easy to show from equation 5 that the following would be the approximate conditions:

$$\begin{aligned} pH &= 7.0 \\ HbCO &= 40 \text{ per cent} \\ HbO_2 &= 40 \text{ per cent} \\ P_{co} &= 0.167 \text{ mm. Hg.} \\ P_{o_2} &= 30 \text{ mm. Hg.} \end{aligned}$$

While we have arbitrarily selected a mid portion of the curves for illustration, the same relations must necessarily hold true for any and all equilibrium relations—oxygen, carbon monoxid, and hemoglobin.

It is at once evident from the foregoing that increasing acidity of the blood from whatever cause hastens the elimination of carbon monoxid from the blood independent of the ventilatory rate. To test this deduction experiments on asphyxiated dogs were done. The results are recorded in the following table:

ELIMINATION OF CO FROM PARTIALLY ASPHYXIATED DOGS WITH CONSTANT VENTILATORY RATE AND VARYING ACIDITY OF BLOOD

Time	*Breathing air*		*Breathing 10% CO_2+Air*		*HCl intravenously*		*Hyperventilation*	
	HbCO satn.	*pH*	*HbCO satn.*	*pH*	*HbCO satn.*	*pH*	*HbCO satn.*	*pH*
Minutes	*per cent*		*per cent*		*per cent*		*per cent*	
0	73	7.40	95	7.38	91	7.34	80	7.58
15	55	7.42	57	7.13	48	7.02	57	7.50
30	49	7.40	44	7.08	35	6.94	47	7.48
60	37	7.38	22	7.08	21	6.92	35	7.53
120	28	7.48	6	7.00	10	6.80	23	7.50
Oxygen capacity, volumes per cent	15.7		21.93		21.6		22.6	

The rate of elimination of CO from the blood was studied under the following conditions: (1) Animal breathing air with constant ventilatory rate. Blood pH normal. (2) Blood pH decreased by breathing 10 per cent CO_2 with constant ventilatory rate. (3) Giving dilute hydrochloric acid intravenously with constant ventilatory rate. (4) Hyperventilation with air. For simplicity of comparison we have plotted these data in figure 2, the initial saturation with CO being the same.

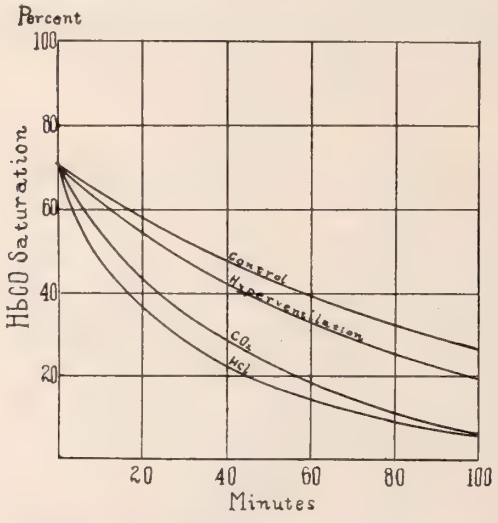


Fig. 2. Curves showing the rate of elimination of carbon monoxid from the blood of partially asphyxiated dogs under different conditions. In all cases except one (hyperventilation) the ventilatory rate was the same.

Little comment is needed. It is clear that hyperventilation itself is of minor importance in the elimination of CO. Decreasing pH by any acid, CO_2 or HCl, causes a great increase in the rate of elimination, and is the most important factor.

It must be strongly emphasized, however, that CO_2 administered to asphyxiated subjects has a powerful stimulating effect on respiration. While hyperventilation plays a minor rôle, yet it is a distinct one. The asphyxiated subject has usually a decreased pulmonary ventilation. This slows CO elimination. Any means of increasing ventilatory rate is beneficial. CO_2 has a double function through the same mechanism. It increases blood hydrogen-ion concentration, which in itself favors CO elimination. This double function makes it the ideal therapy to employ. The addition of pure oxygen, while helpful, is far less important.

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INFANT FEEDING ONCE MORE*

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It seems to be the present consensus of pediatric opinion that at least ninety per cent of mothers may nurse their babies wholly or in part, but as yet this knowledge has not saturated the professional mass. Often we are met by active resistance in this campaign, or by such inconsequential opinions as: "Oh well, Mrs. B. was not very successful in nursing her last baby." And yet, Mrs. B. fed this second splendid baby until he was six months old—not wholly, it is true, but with the aid of complemental feeding—and she was spared all the anxieties and mishaps due to disturbed infantile digestion and nutrition that had marked the feeding of her firstborn. Mrs. B. was a nervous and apprehensive mother; she needed borrowed courage and moral support in her endeavors. And yet, the able and well-intentioned obstetrician would have spoiled this result by a thoughtless remark.

*Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

Dr. Holt once wrote that a mother who had failed to nurse two babies was not likely to succeed with the third, but he lived to amend that opinion. I have succeeded in getting a mother to nurse her tenth baby, in part, when she had failed with the preceding nine, and four of the nine had perished of atrophy in the failure of bottle feeding.

And why should we persevere in breast feeding? Why value mother's milk so highly? There are many reasons—medical, sociological, and sentimental—but we shall confine our discussion to some of the more striking medical ones.

1. It is so constantly noted that there is a greater morbidity and mortality among hand-fed babies, that from this opinion no reasonable man can demur. The disparity between the two groups is most apparent when we study the gastro-intestinal diseases of the warmer months of the year—those dread curves which begin to rise in April and attain their peak in July.

2. Most breast-fed babies gain more steadily and consistently.

3. Very weak babies, premature infants, and atrophic ones may be saved by human milk when all else fails. (Studies of Wentworth, Edsall, etc.)

4. The colostrum period is of importance to the newborn baby, representing in composition, as colostrum does, a fluid midway between blood and milk.

5. A study of the chemistries of different milks shows that the cat's or bitch's milk is fitted for the young of a carnivorous animal, that of the mare or ass for an herbivorous animal, that of the cow for a ruminant, and that of woman for an omnivorous animal. Food for the suckling, to fulfill its complete functions, must not only nourish him for the nonce, but also must prepare him for the activities and stresses of his later life.

6. Antibodies are contained in human milk, protecting the baby in greater or less degree from every infectious disease that his mother has suffered. We must not, however, lean too heavily nor too long upon these natural immunities. Only last winter a baby in Perth Amboy contracted severe diphtheria when 13 months old, and I have seen whooping cough in the newborn. Such exposure should be avoided as the direst pestilence, but if exposed, the child should be vaccinated.

7. The blood of the breast-fed baby is twice as resistant to hemolytic streptococci as that of his bottle-nurtured contemporary. His opsonic index is maintained at a higher level, even though he is obtaining but a small portion of mother's milk.

Rules for Successful Breast Feeding

Certain rules of guidance in breast feeding are so well recognized at the present time that we may call most of them laws. I have tried to condense them to ten. Without irreverence, they may be styled the Ten Commandments of Breast Feeding, and most of them have emanated from on high.

1. Develop the breasts and nipples during pregnancy, avoiding overstimulation in massage. Inculcate the lessons of cleanliness, and teach the importance of regularity in feeding.

2. Put the baby to the breast four hours after he is born, and every three hours after that. From the first, it is well to omit one feeding at night.

3. In our experience, the three-hour feeding interval usually serves best. Certain babies, usually very large ones, who secure a large quantity of nourishment at a nursing, do better on the four-hour schedule. On the other hand, it is rarely necessary or wise to feed babies on two-hour or two-and-a-half-hour plans. Even the weak and the premature do well on a three-hour menu.

4. The proper time for the individual baby to spend at the breast should be determined in the individual case. One baby may secure as much in five minutes as another in twenty. His own vigor in nursing, the maternal supply, and the calibers of the lacteal ducts may one or all explain these variations in one or another direction. The baby who remains twenty minutes or longer is usually getting a fluid deficient in quality. He and his mother need help.

5. It is the present consensus of opinion that at every nursing time the baby should be nursed from both breasts. After nursing, massage both breasts. Teach the mother to express from the nipples all that she can.

6. Waken the baby at his regular feeding hours during the day; let us say, between 7 a. m. and 10 p. m. In general, let him sleep as long as he will at night. Some babies tend to sleep all night from an early period. Always strive to attain the three sevens: "A baby of 7 months should sleep fom 7 p. m. to 7 a. m." Unfortunately, many babies tend to sleep all day and to cry much of the night. In such a case, if the baby has pain, relieve him, but do not pick him up or light the light when he cries. A few nights of judicious neglect will spell good habits for him and happiness and rest for the remainder of the household.

7. Insist on mothers securing sufficient night

rest, and urge the short afternoon nap. Preach freedom from emotional storms, worry, excessive household cares, and social responsibilities. Civilized mothers are too harried and hurried from one field of activity to another.

8. Most mothers may eat the foods that agree with them. Foods that disturb their digestive tracts are prone to upset the baby. Green vegetables in the maternal diet sometimes cause indigestion and diarrhea in the suckling. Again, in the presence of infantile eczema, skin tests may illuminate the problem of etiology, and show some protein or proteins eaten by the mother to be responsible. It is a mistake for a mother to drink a large quantity of milk in an effort to make milk. If milk agrees with her, well and good; but it is a food, not a beverage. The usual result of forcing it in feeding is to create maternal adipose, not baby flesh. Liquids imbibed do tend to increase the quantity of milk, but broths and water may serve this purpose without creating fat or disturbing digestion. No matter what diet is given her, the Holstein or Ayrshire cow will not produce a Guernsey milk, nor will the Jersey or Guernsey secrete a low-fat milk. And so it usually is with maternal diets and maternal milks. Malt preparations and corn meal are exceptions to this rule. Both well deserve their reputation for increasing the supply and the fat content of human milk. Tea and coffee should be imbibed in small quantities, if at all. We prefer to eliminate them from the mother's diet. Morphin is a dangerous drug for nursing mothers. Laxatives, particularly salines, often affect the baby, so drugs that act mechanically or simply by producing exosmosis (mineral oil and agar-agar) are the best to employ for constipation.

9. Give the baby one bottle from an early period. It not only permits of proper experimentation in the food line, but, as in the case of complemental feeding (see 10), it may be made to serve useful corrective purposes. It is best called a substitute or relief feeding, for the term supplemental may confuse.

10. In the presence of an inadequate maternal supply, use complemental feeding. The breast responds to an effort to use it—to normal stimulation plus the stimulating effect of massage. One mother developed a good milk supply on the twenty-first day of lactation, though she had her first baby when she was 36 years old.

If mother's milk disturbs the baby, use complemental feeding to correct the difficulty. Suppose Mother A has high fats in her milk. Use a fat-free milk or buttermilk in the complemental feeding. If Mother B has low solids, too low to nourish the infant, give high solids in the formula that immediately succeeds the nursing. If Mother C has high solids, causing indigestion in her offspring, give a peptonized formula. These are but a few examples of the corrective values of intelligent complemental feeding. We repeat, therefore, even though mother's milk disturbs the infant, even though it does not nourish, it does exert biologic protection of vast importance to the infant.

If the need for breast feeding is fully realized by our profession, the professional conscience will be quickened, and every effort will be made to secure breast milk for the ninety per cent of babies whose mothers may do much or less or little to feed their babies. For the remaining ten per cent, wet nursing, the human-milk surplus as employed in Detroit by Hoobler and in New York by Chapin, or dried mother's milk as produced by Smith and Emerson may some day make our dreams come true. We have sent mother's milk from the Hospital of the University of Pennsylvania to Moorestown, N. J., there to nourish a premature baby.

ARTIFICIAL FEEDING

As we have laid down ten rules to guide us in breast feeding, so, much more briefly, we shall endeavor to elucidate the present status of hand feeding under a similar number of headings.

1. Begin hand feeding as complementary or supplementary (better, substitute or relief) to breast feeding. If breast milk can be utilized for three months, other feeding becomes a relatively simple process, but use the breast for from 8 to 10 months if possible. Indeed, the onset of warm weather may lead one to continue breast feeding for a year or more. Thus, in the old sense, there is no weaning time, as other food is given before the breast is deserted.

2. Usually, cow's milk must be depended upon as complementary to or a substitute for breast milk. Generally, it requires modification for infantile use. Whole milk is a fetish, though at times concentrated nourishment in small amounts may be needed to control vomiting, etc. Neither qualitatively nor quantitatively do the four principal ingredients (proteins, fats, sugar, and salts) of cow's milk correspond to those of mother's milk.

For what seem good and sufficient reasons we do not give full-strength cow's milk until the period of infancy is over; namely, with the eruption of the second molar teeth. Why risk the danger of vomiting from the volatile fatty acids? Why chance the menace of acidosis? Why give 3½ to 4 per cent of protein when mother's milk averages around 1½ per cent? Excess of protein often spells alkaline stools, and the

stool of the breast-fed baby is acid. Why rest content with 4 per cent of lactose, when human milk contains between 6 and 7 per cent? Why not use a carbohydrate diluent when we know that it aids in the digestion of both fats and proteins? The answers to these questions seem to furnish good and logical reasons for modifying cow's milk.

3. Two principal objects must ever be kept in mind: The formula must be fitted to the individual baby so that he may digest it properly, may not vomit unduly, may have normal salve-like bowel movements, advance properly in weight, and remain free from nutritional disease. The diet must nourish him, not only for the nonce, but also it must fit him for his future existence. We aim at a bone building which runs *pari passu* with dentition; a muscle building, not merely a laying on of bodily fat. Usually, if the first requirements are met, the second also will be fulfilled.

4. In devising such formulas, both percentages and calories must be borne in mind, also the requirements of the particular baby. For years we have used the simple rule expressed by Walls, that the average 24-hour requirement of a normal baby is 1½ ounces of milk per pound of baby. Further, 1 ounce of milk per pound should be viewed as a minimum requirement, and 2 ounces as a maximum.

5. Cow's milk is one of the most dangerous foods, if not the most dangerous, during the warmer months of the year, because it furnishes such a rich medium for germ growth. Slowly, reluctantly, most of us have come to boil the baby's milk, particularly in the summer time. The modern slogan may read: Get milk as clean as you can, of as uniform a composition as you can, then boil it to make it beyond suspicion.

6. Some will object: "But ferments and vitamins in milk are thus destroyed." Then introduce them in more effective and safer ways. Orange juice may be given from a very early period in infancy, and it seems to be the consensus of opinion that all babies who can take, digest, and assimilate cod-liver oil should receive it. Thus all three vitamins will be introduced into baby's diet.

7. As milk is a danger food, get the infant on a mixed diet soon. Seven months is our own ideal time to introduce the three-course breakfast, three-course luncheon, and three-bottles-a-day diet. The breakfast comprises fruit, cereal, and egg, with toast or zwieback on the side. The luncheon consists of broth, potato or rice, and one or two green vegetables, again with the hard toast or zwieback. With such mixed diets, we are making better babies. Sometimes mixed diets are given earlier than 7 months, particularly when milk is not well borne or when the babies mature earlier than the average; but in general, freakish and bizarre diets do not appeal to sanity, and until the eruption of a tooth, milk is usually the main dependence. The appearance of the canine teeth usually spells the addition of flesh or fowl to the dietary.

8. The best of infant diets may not attain the best results when bad infantile hygiene obtains. Milk exposed to dust or fly contamination, milk of improper temperature, dirty bottles, nipples, or other containers of food, insufficient air and sunlight, overclothing, overheating of the sleeping apartment, insufficient or disturbed sleep, or bad training—all or one of these may spoil or mar the best efforts in scientific infant feeding. The securance of good hygienic conditions is an essential part of scientific feeding.

9. Time is the key to success in pediatrics; time to listen, to inspect, to percuss, to auscult, to submit needed problems to the laboratory. No one should approach a difficult feeding case who has not such time to give. Let the mother or other caretaker tell her story, but guide her if she rambles. The story must include a serial recital of every food given, and how it acted on the baby. The stools and vomitus must be studied, and urinary and blood tests are often needed. With training, the general practitioner may often do this work successfully. In rural districts he often must do it. These initial studies are prerequisite to success, however, and they must not be hurried through.

10. Our feeding armamentarium must be large, to meet the requirements of the disturbed infants we treat, yet not too large. The fewer tools we employ, the more skillful we become in their use. Bad as most of them are for routine employment, in this truism is probably found the relative success of some practitioners with prepared infant foods. No matter how similar the symptoms of two different babies appear, the diet that agrees with one may actually disturb the other. Do not be discouraged with the second baby; you are making history that if properly read will aid you in helping him.

We append an illustrative list of a few of the more or less common disorders, and of some of the dietetic and therapeutic procedures that may be of benefit in their treatment.

Fat disturbance. Fat-free milk, buttermilk, malt soup, Eiweissmilch or albumin milk, substitution of starch or starch and sugar for fat, emulsified nonvolatile fat (olive oil, lard, etc.), alkalies to neutralize the fat, the butter-flour mixture, or the lactic-acid mixture with Karo syrup.

Sugar disturbance. Lessening in the amount of carbohydrates; substitution of another kind of sugar for the offender; foods high in the albuminous content. High fats may be tolerated, but their employment should be viewed as a dangerous experiment.

Protein disturbance. Lessening in the percentage of the protein, and increase in the carbohydrate and fat; carbohydrate diluents, or thick, starchy preparations; lactic acid; bacillus acidophilus, with lactose or other sugar; split proteins, as in whey modifications; peptonization, etc.

Atrophy. Mother's milk; malt soup; butter-flour feeding; lactic-acid milk; good hygiene; mothering, as when the child is removed from the institution, and sent to a well-ordered home.

Pylorospasm. Thick farina feeding, nourishment in small amounts, peptonization, low fats, atropin, gastric lavage, enteroclysis. In the presence of rapid wasting, lessened urine, little fecal material, a scaphoid lower abdomen as compared with a prominent epigastrium, violent gastric peristaltic waves, a palpable pyloric mass, and x-ray evidence of gastric retention after many hours, the baby has a surgical condition—true congenital hypertrophic stenosis. Do not delay operation. Feeding and medicine may play their parts later.

Rickets. Prevention is the thing. Good hygiene in its ordinary sense and the best of food may not serve to ward off the milder grades of this most common disease of infancy. Heliotherapy and cod-liver oil are the order of the day. Exposure of a large amount of body surface to unobstructed sun rays and the internal administration of cod-liver oil should become routine procedures in dealing with infants. If active rickets occurs, sunlight, cod-liver oil, and the use of the quartz lamp should supplement and augment any hygienic and dietetic treatments.

Scurvy. This disease should not occur. If vitamin C is supplied, it will not occur, and vitamin C is found in orange juice. In institutional work, tomato juice may be employed. But do better than this by supplying all three vitamins. If you recognize a case of scurvy in time, fresh pure milk (not pasteurized or boiled), orange juice, fresh beef juice, and possibly potato pulp will bring about a magic cure. Always strain beef juice through three layers of sterile gauze to remove the possibility of beef tapeworm introduction. Baby should be carried on a well-padded frame to prevent the agony incident to handling him. Loose gauze or cotton should be used for his urinary and alvine discharges, for the diaper may cause him agonizing pain.

Infantile colic. Fermentation, as in fermentative diarrhea, or a gas-bacillus infection may cause severe cramplike pain, but usually such causes are not responsible for infantile colic. The adult may have transient pain from gas in the stomach or bowel, but eructation or passage of flatus brings prompt relief. Baby is unrelieved because he cannot pass the gas. Look for the mechanical factor—the stenosis, loop, or kink of bowel that obstructs its passage. Most often the cause will be revealed to the examining finger in the anus or rectum, though sometimes the aid of the roentgenologist is needed.

Summer diarrhea. Initial starvation is the important thing. "The first day water, the next day tea" is a life-saving rule. Do not risk a starvation acidosis by delaying the resumption of food too long, however, and minimize the risk by employing colonic lavage with 1- or 2-per-cent sodium bicarbonate. Ordinarily, milk is the chief offender, and it should not be given for several days. The return to food is generally best initiated by the use of carbohydrates; though in acid types of dysentery, albumin milk or buttermilk may be the best foods to employ. In the main, our own best substitute for milk in these cases is a mixture of barley water or barley jelly and albumin water in equal proportions. To this may be added a desired sugar.

Celiac disease. These patients should be fed by an expert. They cannot take fats, sugar, or starch in ordinary forms. They are given casein preparations, buttermilk, albumin milk, rare meat, or other albuminous foods. The disease is mentioned here because of the remarkable results obtained with banana feeding. It is wonderful how many bananas may be taken, well digested and absorbed by these patients. They save the day and the baby.

Acidoses have been eliminated from this discussion; not because they are not of vast importance, but because their just treatment would demand another paper as lengthy as this.

ABSTRACT OF DISCUSSION

PAUL B. CASSIDY, M.D. (Philadelphia, Pa.): The care of the breasts, both pre- and postnatal, is one of the most important things in encouraging breast feeding. I have attended a mother who has had seven children, all breast fed, and it has been a pleasure to take care of her. At the present time I am caring for a mother with her third baby, who consented only after the greatest coaxing to continue nursing, because the nipples became very sore. Both mother and baby are now doing well.

I should like to ask Dr. McKee whether he advises washing out the mouth of the newborn baby as well as washing the breasts of the mother before and after nursing.

ROBERT K. REWALT, M.D. (Williamsport, Pa.): I should like to ask Dr. McKee how he handles the young, athletic type of woman who is pleasure bent, and refuses positively, after she returns home from the hospital, to nurse her child.

JOHN M. HIGGINS, M.D. (Sayre, Pa.): Does a history of tuberculosis in the mother, not active at the time of delivery, influence the advice in regard to nursing the baby?

JOHN D. DENNY, M.D. (Columbia, Pa.): Speaking of banana feeding, some time ago I asked a mother what she was feeding outside the formula, which was well worked out and not causing trouble. She said her husband had fed the baby a very ripe banana, and she thought that was what disturbed the baby's digestion. Later I learned it was Lebanon bologna that was at fault. Such experiences are most likely responsible for the condemnation of a food which might prove a valuable dietary adjunct.

JACOB E. HOSTETTER, M.D. (Gap, Pa.): Is mother's milk changed in quality by fever of 104 or 105 degrees, due to influenza or other disease which develops shortly after the baby has been born?

HARVEY O. ROHRBACH, M.D. (Bethlehem, Pa.): If any one factor is of importance in bringing about successful nursing, it is the prenatal diet. A certain dairyman keeps the pregnant members of his herd, especially at the end of the term, on a forced balanced ration, thereby keeping these animals in the best of physical condition. This method permits him to avoid a mixed herd, and obviates the necessity of adding a breed giving a higher percentage of fat.

If not only prenatal but preconception care could be instituted, the baby would fare better. The food needs during pregnancy should vary because the demand is changed. The mother's diet should include not less than a quart of milk, a leafy and root vegetable, and fresh fruit, and if strictly supervised as regards meat, starch, sugar, and fat, the baby will be born rich in vitamins and minerals, will not be abnormally overweight, and if the necessity arises, will be able to thrive on any feeding for three to six months. It is also true that the mother will invariably be able to breast-feed successfully such an infant for three to five months.

DR. MCKEE (in closing): With regard to the athletic young mother who refuses to nurse her baby: Personality counts for a lot in life. Use all you have to impress that young woman. Point out to her the biologic significance of mother's milk. If this is really made clear to her, and she still refuses nature's way, then that mother lacks moral responsibility. The next thing to do is to walk out. I don't have to look after her baby, I won't do it, and I tell her so in so many words. I tell her to get someone in whom she has sufficient confidence to direct her.

With regard to the tuberculous mother, contraindications to breast feeding were omitted in my paper because I wanted to make the importance of breast feeding paramount in this discussion. However, I should view that mother's case with grave apprehension, because we know that so many women who have had tuberculosis gain weight during pregnancy only to lose very quickly during the strain of lactation. Possibly I should have her try to nurse the child, but if she lost weight or strength, I should immediately wean the baby.

Now, concerning the hygiene of the mouth: I personally have been convinced that the teaching of Epstein on the toilet of the mouth is correct. Try to keeps things that are not clean from being placed in the mouth. Then, unless the baby is vomiting, there is no reason to wash his mouth before he has teeth. After the teeth erupt, there is every reason to cleanse the mouth at regular intervals, but when resorting to this cleansing, be as clean as you would in some surgical procedure. Baby fingers and thumbs are not clean; therefore, it behooves us to prevent thumb sucking at any cost.

If the mother has a very high temperature, say 104° or above, it usually is best to try to keep up the breast supply with occasional massage, expressing some of the milk from the nipples. For the time being, it is better not to bother her with the baby. Feed the baby something else, and try to maintain the breast supply.

THE ROENTGEN RAY IN DIAGNOSIS AND THERAPY*

ABSTRACT

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The Roentgen-Ray Society of Central Pennsylvania was organized at Altoona in 1916 with a membership of six. Since that time it has grown rapidly and steadily until its members now number seventy-five. Legally qualified physicians of the State who devote the major part of their time to roentgenology and roentgen therapy are eligible to membership, and physicians of the neighboring states may become associate members. The society holds two meetings a year, in April and October. The official publication is known as the *Central Pennsylvania Journal of Roentgenology*. The objects of the society are the advancement of the science of roentgenology, and the education of its members and the general practitioner to the use of the x-ray.

A series of thirty-five unusual lantern slides illustrating various types of pathology were presented for the Roentgen-Ray Society, and the following interesting observations have been gleaned from their description:

Roentgen literature is not overburdened with discussions on the thymus gland. In fact, many hold that the shadow seen on the radiogram is not that of the thymus, but a density due to the involvement of the mediastinal glands. Whether it is or not, most roentgenologists will not dismiss their little thymus patients without the benefit of roentgen therapy. That such treatment is efficacious is evident by the prompt relief of symptoms. Given the usual clinical signs of enlarged thymus (dyspnea and cyanosis), the roentgenologist is justified in admin-

*Presented with a series of unusual lantern slides by the Roentgen-Ray Society of Central Pennsylvania before the General Meeting of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925; also before the Academy of Medicine, Pittsburgh, Pa., October 27, 1925.

istering treatment whether the radiogram confirms the diagnosis or not. Some writers assert that an image corresponding to the thymus shadow can be projected on the radiogram by passing the central ray obliquely through the chest, while others demand the examination in various positions in order to show the gland.

Diverticulæ of the esophagus have been recognized since 1833, though they were diagnosed only at necropsy. Since the advent of the roentgen ray, diagnosis of these cases is comparatively common. The radiogram is of value not only in locating the lesion, but also in demonstrating its size, shape, and relation to other structures. The patient who complains to the clinician of pain and pressure in the chest, obstruction of the esophagus, regurgitation and vomiting, especially of food taken some time before, should be referred for routine examination in order to exclude these deep-seated diverticulæ.

Spontaneous pneumothorax is found most often in the tuberculous. It may be produced in the course of an emphysema, through the rupture of a vesicle. It may follow traumatism. Rarely does it remain true pneumothorax; sooner or later it is complicated by a serous, serohematic, or purulent effusion. The existence of this double effusion—gaseous and fluid—in the middle of the pulmonic field causes the formation of characteristic radiologic images.

Cancer of the lung appearing in various anatomical forms (carcinoma, sarcoma, etc.) may appear clinically in very different aspects. Its diagnosis is always difficult. Radioscopic examination may in certain cases be of undisputed usefulness, provided it is closely coördinated with the clinical findings.

Abscess of the lung is fairly common, and is more frequently recognized since the screen and film methods have come into general use. Because it usually follows operation (not only tonsillectomy), pneumonia, bronchopneumonia, or bronchial infections, the thoracic symptoms are usually ascribed to the primary lesion, and do not attract special attention. The radioscopic examination often discloses the condition, and accounts for the continued symptoms. The location and extent of the abscess is of primary importance in the treatment. A word of warning—nonopaque foreign bodies must always be borne in mind when examining the chests of children, and even adults, who have had indefinite chest symptoms over a long period of time.

In the study of diseases of the intestinal tract, some writers have said that after a thorough history, the roentgen examination is next in importance. The almost universal use of the opaque meal goes a long way to prove this assertion.

The possibilities of high-voltage therapy are illustrated by a case which presented primary and practically pathognomonic signs of gastric ulcer—niche, organic hour-glass stomach, etc. This patient was of cancer age, and was considered a poor surgical risk. After a thorough course of medical treatment, she was given high-voltage therapy. The results were so amazing (a gain of 15 pounds in weight, absence of pain, etc.) that it brought up the question as to whether or not it was an ulcer on a carcinomatous base.

A patient who is "fair, fat, and forty," who complains of vague and indefinite gastric symptoms and a pain low down on the left side may justly be suspected of having diverticuli of the colon. As a general rule, such cases are not diagnosed clinically. It is usually by means of the barium enema in a routine examination that they are discovered. In a case of multiple diverticulitis of the colon the patient was 72 years of age. His trouble had been diagnosed as cancer, and his history reads like most other carcinoma cases—alternating periods of diarrhea and constipation. A number of unsuccessful attempts to fill the colon caused the clinician to persevere until finally the pathology was definitely demonstrated. Where the barium enema is employed routinely, such instances are no longer rare.

With the study of the opaque meal in the stomach, attention has been attracted to the gall bladder as an everpresent source of focal infection. The search for biliary calculi or concretions having proved uncertain and unsatisfactory, the next step was to study the stomach and duodenum for secondary signs of cholecystitis. Due to the efforts of Graham and his coworkers, a method has been evolved for examining the gall bladder that is as logical as the opaque meal in the stomach, though not as efficient. The oral method of administering sodium tetraiodophenolphthalein is the latest procedure. It may, in some instances, be more convenient for office routine, but it never can replace the intravenous method.

Cancer of the breast has always been a serious problem. The roentgenologist is in a position to discover the early signs of metastasis in the lung, and to begin the treatment. Surgeons should always ask for a radioscopic examination of the chest before breast amputation.

Radiology plays a more or less important part in the diagnosis of congenital lesions of the heart. Ordinarily, this diagnosis is easily made when it is a question of the most common lesion

—stenosis of the pulmonary artery, with interventricular perforation. On the contrary, it is very difficult when it is a question of malformations which give no sign on auscultation and percussion, or which result from disturbances in the respective positions of the several cavities. Radiology does not attempt to remove all uncertainties, and it is true that it cannot demonstrate the persistence of a patent ductus arteriosus, the transposition of vessels, etc., but in revealing the modifications which certain malformations impress on the configuration of the heart, it allows at least a suspicion as to the cause.

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MIDWIFE WORK IN PENNSYLVANIA

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The midwives of Pennsylvania are to be found chiefly in the coal regions among the foreigners, their practice hinging largely on the age-long custom obtaining in the old countries from which the immigrants came.

Their precise number is not known, but is probably less than 1,500, distributed very unevenly through the 67 counties. There are counties with no listed midwives; others have a small and practically negligible number; while at the other extreme is Philadelphia where, because of a concentration of foreign population, there are many scores.

Recognizing that a bad situation existed which had become in recent years very exaggerated by lack of funds to carry out successfully any control or supervision, it was felt that the hour had arrived for some definite plan to be made.

It may be as well to state at the outset that the sweeping condemnation of midwives as a whole, and the contention that they should be immediately "eliminated" shows an impracticable viewpoint and a lack of understanding of the true situation.

In the first place, so long as the foreign woman remains unconverted from the race habit of being attended by a midwife and refusing confinement services from a man, so long can we not consider trying to sweep out with a stroke the only aid which the patient will accept. Again, granting willingness to have a qualified practitioner, man or woman, if midwives are suddenly eliminated, there are not enough doctors everywhere to meet the situation. This, of course, does not apply to all areas of the State, but does distinctly apply to the city of Philadelphia and to several of the counties in the rural area where mining "patches" exist beyond the convenient reach of doctors' calls.

Dr. William R. Nicholson says: "We assert without hesitation, that she (the midwife) is an anachronism and a menace under the conditions at present operative, and that as soon as any better practicable scheme (I wish to emphasize the word practicable) is evolved, then we shall be the first to applaud her retirement to the oblivion which is her due; but as yet, with the knowledge of the problem confronting us, which can come only from experience, we believe that we shall, within any given time, more nearly approach the ideal by the employment of supervised midwives than will the advocates of the various futile imaginings so far put forward as a substitute for them."

In 1922, the Department of Health was permitted, through its then Division of Child Health, to undertake to demonstrate that in the rural area adequate supervision and control of the midwives could be exercised. Proceeding with the permission of the Board of Medical Education and Licensure, a plan was conceived and carried into execution beginning in June of that year.

A limited area was chosen covering four counties with a combined population of 1,134,750. Foreigners, and therefore midwives, were to be found in large numbers. The first necessary step was to secure an entirely accurate list of licensed women. The foreign groups included Italians, Lithuanians, Slavs, Poles, Czecko-Slovakians, Austrians, Hungarians, Russians, and Germans.

A full-time woman physician was appointed exclusively for midwife work. It was necessary to go from house to house with the old lists, the accuracy of which had not been checked up for years, due to lack of legislative appropriation for midwife work. Unexpected difficulties were met because of the resistance which all of the women, licensed and unlicensed, immediately showed. Suspicious of what it might mean to all of them, and "leery" of any regulation which might hinder the present loose fashion in which they did as they chose, one and all were up in arms.

Parallel with the slow-going survey, supervision and instruction of the various groups began. Classes for instruction were held monthly.

One of our first objects was to secure the entire friendliness of the licensed women in order that they might be willing to coöperate with us in apprehending the unlicensed women and putting them out of business.

One or two unsuccessful court cases distinctly damaged the general morale, and it was of prime importance, where defiance of the law was found, to carry a case or two successfully through the courts and secure convictions. Such convictions, we were sure, would have an extremely salutary effect. Trials consequently were successfully prosecuted.

Long years of *laisser faire* have given the unlicensed woman a feeling of security, quickly becoming obstinate defiance when her "rights" are questioned. Entrenched custom, lesser expense, scarcity of doctors are arguments not lightly set aside.

As we proceeded, difficulties beset the path, and complicated questions arose quite apart from the obvious problems. For example, in determining to uproot the unlicensed women completely, we found that some small isolated sections contained neither doctor nor licensed midwife. If we stopped the only one who could give any help, what of the results to mothers and babies? Yet allowing one unlicensed woman to continue to "practice" was unfair discrimination.

Interesting conditions unearthed themselves as progress was made. Some of the midwives are quite well off. Several drive their own cars. One was discovered who employed a trained nurse and practical nurse to give bedside care to her patients. In one county, eight unlicensed women were sufficiently rich to take their arrest, trial, and conviction with entire equanimity, pay their fines cheerfully and without delay, and go straight back to their work!

Some sidelights on birth registration were illuminating. The regulation requiring the reporting of all cases within twenty-four hours of delivery to the Inspector seemed often to be a dead letter. One unlicensed woman boasted that she had delivered 300 babies, but disclaimed any responsibility for the registration of the births which, she said, she had left in the hands of one of the doctors in the town. Another midwife declared that she had borne eleven children, had delivered herself each time, but not a single one of the births had ever been registered.

A long-standing regulation requires the midwife to have a certain amount of apparatus, including a bag. Many of the midwives had nothing to show in the way of equipment. Any pair of scissors and any piece of string would do for the cord. First meetings of the classes revealed these things. Second meetings, as a result of some exhortation given at the first session, presented a pleasing sight. Women turned up with new bags filled with assorted commodities from the drug store, where there had evidently been a marked increase in trade. As time goes on, real reform seems to have taken root. White all-over aprons are actually being worn. Hands are being well washed, and the technic taught to the women is being carried out. Visits to the homes of the patients reveal these facts.

At the completion of the survey in each county we had an approximately correct list. The general plan proceeded on the assumption that control, supervision, and instruction were feasible without great financial outlay. The four counties of the original plan have been increased in the past year to eight. A second full-time worker was appointed in March, 1925. By spending at least a week at a time in the counties by turns, the work is completely supervised. The visiting of the cases is in the hands of the State nurses detailed for this work. Both State doctors follow a regular beat in making their rounds from county to county.

The monthly meetings for instruction are recognized to be of crucial importance. Some of the women are graduates of good midwife schools abroad, but of only a very few could it be said that they were doing good work. Much uncleanness prevailed, appalling ignorance of some of the simple precautions was rampant, and even among those who know better, standards easily sag where no supervision is exercised.

The work begun in June, 1922, may be summarized as follows:

(1) An accurate census exists of licensed midwives and of women illegally practicing in our eight counties.

(2) Fruitful arrests are being made.

(3) All confinement cases are visited by a public-health nurse as nearly as may be within twenty-four hours after birth.

(4) Direct and constant oversight of the legal midwives, their persons, homes, and equipment for work, is in operation.

(5) Class instruction is given monthly through nine months of the year by our women physicians.

TABLE I

1922	(six months)	1,397 deliveries
1923		4,559 deliveries
1924		5,482 deliveries
1925		6,045 deliveries
Total		17,483 deliveries

Table II shows few maternal deaths and the low incidence of sepsis, together with the number of deliveries in the various counties. Figures for the five counties added in 1925 show but the one year's summary.

Table II

Showing Population, Number of Midwives, Maternal Deaths, and Sepsis Cases, by Counties and Years

	Population	No. of Midwives			Mat. Deaths			Sepsis Cases			Midwife Deliveries		
		1923	1924	1925	1923	1924	1925	1923	1924	1925	1923	1924	1925
Cambria	209,271	47	52	42	1	1	1	0	1	0	892	834	688
Lackawanna ...	295,951	80	86	84	2	3	6	4	2	1	1,753	2,068	1,856
Luzerne	408,226	103	118	121	0	8	1	5	6	4	1,523	2,183	2,094
Schuylkill	221,307	94	92	45	0	1	0	0	0	0	391	397	336
Carbon	66,069	.....	.....	9	.....	.....	2	.....	.....	2	.....	.....	258
Lehigh	158,653	.....	.....	15	.....	.....	0	.....	.....	0	.....	.....	394
Somerset	87,299	.....	.....	13	.....	.....	1	.....	.....	0	.....	.....	27
Westmoreland .	288,804	.....	.....	73	.....	.....	0	.....	.....	0	.....	.....	75
*Northampton ..	(162,820)	.....	.....	(7)	.....	.....	0	.....	.....	0	.....	.....	(317)
Totals	1,735,580	324	348	409	3	13	11	9	9	7	4,559	5,482	6,045
	(1,898,400)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Northampton County was temporarily included in our special area of supervision.

Our law requires that the midwife shall deliver only an uncomplicated vertex by herself. She must call a physician for any other presentation or any untoward symptom. The complications listed range from marked hemorrhage to eclampsia, and include a wide variety of abnormal presentations, severe hemorrhage, phlegmasia alba dolens, etc. In 1925 there were 316 complications in 6,045 deliveries.

In reckoning the deaths of mothers and babies we have included every one where a midwife had had anything to do with the case, even though the physician was called and signed the death certificate. Only in this way can we avoid the criticism that the midwife was not "credited" with as many deaths as she was "responsible" for.

Eleven maternal deaths in 6,045 midwife deliveries give a maternal mortality rate of 1.8. The maternal mortality rate for the State for 1923 was 6.3; for 1924, 6.1. The figures are not yet published for 1925.

The fair showing of the midwives with their low maternal and neonatal death rates has led to the observation that we might better do away with doctors and universally employ, instead, the midwife. Be it remembered that, without belittling her low death rates, the midwife is practicing exclusively in the well-circumscribed field of normal vertex cases, while to the obstetrician there come not only the normal but every deviation, including the swiftly fatal emergencies. Again, the midwife is obliged to wait patiently for nature, is not allowed to hurry the delivery by the use of any drug or appliance. She may not use forceps, and of necessity cannot operate. Furthermore, the midwife is dealing almost exclusively with women of races who are hardier in childbirth than the American stock.

The classes, attendance upon which is compulsory, are held in such centers as will meet the greatest convenience of the midwives in travel. At the beginning, the class work was done against great odds, and it seemed reasonable to

Table III

Showing Deliveries, Complications, Maternal Deaths, Infant Deaths, Stillbirths, and Neonatal Death Rate by Counties, 1925

	Midwife Deliveries	Complications	Maternal Deaths	Neonatal* Deaths	Still-born	Neonatal* Death Rate
Cambria	688	22	1	21	7	30.52
Lackawanna	1,856	128	6	54	18	29.1
Luzerne	2,094	129	1	65	25	31.0
Schuylkill	336	10	0	8	1	23.8
Carbon	258	14	2	14	6	54.2
Lehigh	394	6	0	20	3	50.8
Somerset	27	2	1	1 (5 mo.)	0	Incomplete
Westmoreland	75	7	..	4 (1 mo.)	2	Incomplete
Northampton	317	5	0	4	1	12.6
Totals	6,045	323	11	191	63	31.5

*"Neonatal" applies to babies under one month of age.

spare no efforts to make the presentation of the lessons such that the women would *want* to attend. It was believed that vividness and excitement might carry the teaching into popularity. Each lesson was therefore to be a demonstration with actual material, not merely didactic coaching.

We feel we secured our object by making use of life-sized manikins with chamois babies, bony pelves and fetal skulls, and all the small pieces of paraphernalia pertaining to preparedness for doing proper midwifery work, including a few simple charts and colored pictures.

The visiting of the cases after delivery, and the systematizing of the reporting of all cases, whether normal or complicated, with special attention to ophthalmia, are important details of the general plan.

It was found after the work was well under way that in some of the counties the midwives wished to organize themselves into leagues. Such organizations were either revivals of previously existing associations or entirely new undertakings. It was obvious that any formal organizing of their groups which the women themselves might ask for was most desirable for fostering pride in their "profession," and from our point of view, for establishing valuable *esprit de corps*.

Without continual persistence and unceasing supervision, no standards can be upheld and no gain made, but with supervision and an undiminished enthusiasm, at least the worst features of the midwife situation are being changed.

PROBLEMS IN DIAGNOSIS AND TREATMENT OF BRONCHIAL ASTHMA AND HAY FEVER*†

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It has been estimated that 10 per cent of the white population of this country is hypersensitive to one or another foreign protein. One person in ten, therefore, is a potential sufferer from asthma, hay fever, urticaria, angioneurotic edema, eczema, or other allergic disease. Moreover, hypersensitiveness furnishes one of the best examples of hereditary disease in the whole field of medicine. Take into consideration this enormous prevalence and this hereditary tendency to hypersensitiveness, and it will be obvious how important a part these diseases play in everyday practice.

What is the etiology of bronchial asthma? This is a question to which the answers have been many, varied, and everchanging. In the recent American literature, hypersensitiveness occupies a most prominent position, almost to the exclusion of everything else. On the other hand, European writers still mention a host of causes other than hypersensitiveness, referring casually to an allergic etiology as a prevalent American view. The truth probably lies somewhere between these extremes, but increasing experience shows more and more that hypersensitiveness is by far the most important single factor.

The percentage of hypersensitive cases varies with the age of onset, being most frequent in cases beginning in early youth, and least common when the disease starts late in life. Asthma in childhood is almost always allergic. We find positive skin tests in the children in 75 to 80 per cent of the cases, and suspect hypersensitiveness in the remainder. Fifty per cent of cases beginning before the age of twenty and 25 per cent of those beginning before the age of thirty-five give positive skin tests. Asthma beginning after the age of fifty is rarely allergic. The figures for all cases, according to different observers, range from 50 to 70 per cent.

To what substances may these patients be sensitive? They may be subdivided into those which are ingested and those which are inhaled. The earlier work in this field wrongly overemphasized the importance of foods in the production of asthma, for in the experience of recent observers the incidence of food sensitization as a cause is certainly under 5 per cent. It is in childhood that foods are most commonly found to be a cause of asthma, and even here they are not usually the major cause. First in importance are egg and milk. Then in the order of frequency come certain fruits, such as the strawberry; fish, shellfish; nuts; the cereals, particularly oats and buckwheat, and—fortunately for the patient—least frequently wheat. Food sensitization is more likely to produce skin conditions rather than asthma, and infantile eczema is in the majority of instances due to this cause.

In the group of ingested substances also belong the drugs. These also are more likely to produce skin rashes, but occasionally asthma may be traced to them. The drugs most commonly at fault are aspirin, quinin, and ipecac. In this connection, a word of warning is appropriate. When a patient gives a history of being sensitive to a drug, it is better to take his word for it than to try any therapeutic tests. One of my patients is quinin sensitive, and she is careful to

*Read at the Annual Meeting of the Sixth Censorial District of the Medical Society of the State of Pennsylvania.

†From the Medical Division of the Hospital of the University of Pennsylvania.

mention the fact to every physician who may treat her. One doctor became curious about the quinin story, and gave her a medicine, one dram of which contained an eighth of a grain of the drug. Within a few minutes of the first dose the patient almost died of an angioneurotic edema, with edema of the glottis.

Far more important are the inhaled substances. These include the pollens, animal emanations, such as feathers and hair, and various organic dusts.

Pollens vary with the time of year and locality. In Pennsylvania there are three pollen seasons. The earliest, and least important, is in March and April when the trees pollinate. Next comes the early summer or grass season, beginning about the 15th of May and lasting until early July, when the prevalent pollens are those of timothy, orchard grass, June grass, red top, red fescue, and sweet vernal grass. The autumnal season begins about the 15th of August and lasts to the end of September, and in this part of the country short and giant ragweed pollen is responsible for practically all of the cases.

At this point, attention is called to an important principle of plant pollination, ignorance of which has led to many errors in the past. Flowering plants fall into two groups: those which are insect-pollinated, and those that are wind-pollinated. Insect-pollinated plants have bright, conspicuous flowers, often scented and producing honey to attract insects. Their pollen granules are relatively few in number, large, heavy, and often sticky in order to make them adhere to the legs of insects. Their range of wind convection is only a few feet or yards. On the other hand, wind-pollinated plants produce pollen in enormous abundance in numerous small, inconspicuous flowers. The granules are small (that of ragweed has a diameter of only 15 microns) and their range of wind convection is correspondingly great. Grass pollens are easily carried a half-mile, while ragweed pollen has been found twenty miles at sea and five thousand feet in the air.

When people first began to associate their periodic illness with the flowering plants, they were naturally struck by the more conspicuous flowers, and so for a long time (and even today) the layman spoke of "rose cold" in June, and in the fall blamed goldenrod. Yet fall hayfever stops with the first frost, for ragweed is very sensitive to cold, while goldenrod persists along the country roads until snow flies. It is true that an occasional patient is sensitive to rose, or to goldenrod, but even he will have trouble only when he comes in direct contact with these flowers. They do not figure importantly more than once or twice in a thousand cases.

Among the animal emanations, the most important are chicken feather, goose feather, and horse hair. Less frequently, trouble is due to cat hair, dog hair, or sheep wool, and an occasional case is traceable to guinea-pig hair, rabbit hair, canary or parrot feathers.

We often think of feather asthma as a matter of recent knowledge, yet in 1552 Jerome Cardan, an Italian, and the most celebrated physician in Europe of his day, was called to Scotland to attend John Hamilton, Archbishop of St. Andrews. For nearly ten years the Archbishop had suffered from asthma that had baffled the leading physicians of Great Britain and France, and that had greatly restricted his activities and even threatened his life. When Cardan reached Edinburgh, it was decided to try for thirty days the treatment prescribed by other consultants, but the patient got no better. Then Cardan instituted his own measures, and with remarkable results. He gave a host of directions as to his Lordship's diet and activities, and prescribed various drugs, but it is of particular interest to note that he directed that the "Reverend Lord should not sleep upon feathers but upon unspun silk, and be particular upon that point. The heating of the spine and vena cava on a feather bed would cause matter straightway to ascend into the head. The pillow should be of dry straw finely chopped, and if that seemed to his Grace too hard, it might be stuffed with well-dried seaweed but by no means with feathers." It is recorded that the Archbishop rapidly improved, and we know that he was able to take an active part in Scotch politics until he was hanged full nineteen years later.

Dust includes a most important group of factors. Most asthmatics tell us that dust of any kind gives them trouble, and it is easy to believe that at a time when there is bronchial infection and a congested mucosa, together with a "hair-trigger" autonomic nervous system, the inhaled dust, acting simply as a mechanical irritant, may precipitate an attack. It is significant, however, that the dusts to which we are exposed are commonly of an organic nature. They contain protein and may therefore act as antigens in producing a true sensitization. Commonly, then, we find that asthmatics are sensitive to a particular dust. This may be a dust to which they are exposed in their occupations. A tailor may become sensitive to wool, a baker to the proteins of wheat and rye flours, jewel polishers and woodworkers to wood dusts, especially boxwood and orangewood. Some patients are sensitive to orris root and rice, common ingredients of face

powders. Those are clearly defined specific substances.

But often a patient is sensitive to the dust of a particular house or a room. This can be shown by positive skin tests with a dust extract as well as clinically. Remove the patient from the dust to which he is sensitive, and he becomes symptom-free; expose him to the particular dust, and the asthma returns.

What is it in house dust to which these patients react? This question must still remain unanswered. It is not a single thing but multiple, for all patients do not react to the same dust. And yet a single dust extract from a given patient's house will react positively, not only with that patient but with many others. Cooke has reported positive skin tests with a stock dust mixture in over 30 per cent of his cases. My experience is quite similar.

The importance of these dust cases cannot be over-emphasized. They constitute probably the largest single group. I have obtained positive skin tests with dust in over 30 per cent of cases, and in two-thirds of these I have been able to adduce clinical proof.

There is still some controversy as to whether there can be a true sensitization to bacterial proteins. Walker, and more recently Thomas and his associates, have claimed that positive skin reactions may be obtained to bacterial proteins. This, however, has not been the general experience.

How shall we find out to what a patient is sensitive? This is accomplished by means of a careful history and by skin tests. There is no disease in which a detailed history is quite so essential as in bronchial asthma. Some of the more important points to be noted are the following: (1) The age of onset. The earlier in life asthma begins, the more likely is it to be due to hypersensitiveness. (2) The nature of the attack. This includes a description of the onset, duration, and termination, and its relation to cough and exertion. The more clearly paroxysmal the attack, beginning with dyspnea not induced by cough or exertion, the more likely is the case to be allergic. (3) The time of day of the attack. Attacks due to feathers and house dust are usually nocturnal. We must remember, however, that all asthmatics have more trouble at night. (4) The place of the attack. It is characteristic of the dust cases that their symptoms are worse in certain localities, or even in a certain room. (5) Seasonal variation. Pollen cases obviously fall in this group, but we must also keep in mind the seasonal occurrence of certain foods. Many nonsensitive cases have also a seasonal variation, being worse in the winter or in the early spring or late fall, when there are sudden weather changes. It is unsafe, however, to consider a case nonsensitive simply because of such a history of spring and fall bronchial infection. I am convinced and can show proof that some patients who are sensitive to inhaled substances are troubled only at a time when their bronchial mucosa has been rendered abnormally permeable by infection. With improvement in the infection and a return of the mucosa to normal, these patients are no longer vulnerable. (6) Relation to food. Occasionally a patient is directly able to connect an asthmatic attack with the eating of a certain food. We must distinguish, however, between the effect of a specific food and the taking of a large meal. Most asthmatics are troubled when the stomach is overfilled. (7) Exposure to animal emanations. Do not take the patient's word as to the contents of pillow, mattress, or upholstery, but have him submit samples. An intelligent woman of forty-five consulted me because of asthma that had come each winter for three years, and apparently was connected with bronchial infection. Close questioning, however, revealed the fact that her asthma began whenever she moved into her town apartment and was relieved when she returned to her country home in the spring. In addition, she gave a history of sneezing and asthmatic symptoms fifteen years previously whenever she rode horseback, and on that account had to give up horses. She had thought that her mattress contained wool, but on opening it found horse hair. The removal of the offending mattress cured her asthma. (8) Effect of adrenalin. If adrenalin fails to give relief in an attack of asthma, there is little likelihood of uncomplicated allergy. (9) Family history. Fully 50 per cent of cases give a positive history for hypersensitiveness. This does not necessarily mean the same disease throughout the family. One person may be subject to hay fever, another to a food rash, or asthma, or drug sensitization. The tendency to sensitization is hereditary, and closely follows the Mendelian law. Both parents being hybrids and both having hypersensitiveness, 75 per cent of their offspring will be hypersensitive, while about 40 per cent of the children are hypersensitive if only one parent is affected.

The actual determination of sensitiveness is made by means of skin tests. For this purpose the physician who expects to investigate many asthma cases must have preparations of practically all substances that can cause asthma, and their number mounts into the hundreds. It is obvious that the general practitioner would find this impracticable, but that does not mean that the practitioner should not investigate these cases

at all. Experience has shown that the majority are due to a comparatively small number of substances, and it is possible to make a short list of proteins that every practitioner would find useful. With these he can test his patients, and frequently arrive at a correct diagnosis. Of the food proteins he should have the following: egg, milk, rice, wheat, corn, buckwheat, oat, bean, pea, potato, strawberry, orange, tomato, lamb, pork, beef. The animal emanations necessary are horse dander, chicken feather, goose feather, cat hair and dog hair. Orris root and cottonseed are also desirable. The most necessary pollens are orchard grass, June grass, sweet vernal grass, red top, red fescue, timothy, and short and giant ragweed. Liquid pollen preparations tend to deteriorate, and should be renewed each spring.

The tests may be performed by two methods: intracutaneous, in which the substance in solution is injected into the skin, and cutaneous, in which the dry powder is placed upon a shallow cut or abrasion (preferably a cut), on the flexor surface of the forearm, and the substance brought into solution by the addition of a drop of tenth normal (0.4 per cent) sodium hydroxid. In each case, a positive reaction is characterized by an urticarial wheal 0.5 cm. or more in diameter, with a characteristically irregular outline, like the pseudopods of an ameba, and with a surrounding zone of erythema. The reaction appears in five to fifteen minutes, rarely later, and begins to subside in half an hour.

The intracutaneous method is more delicate but it is attended by certain difficulties and dangers. It is harder to interpret, and false positives are not uncommon. The proteins to be tested must be in sterile solution and such solutions for the most part are not commercially available. Moreover, the method is not without danger: tests are sometimes followed by severe general reactions, and Cooke reported the death of a child three minutes after the test injection. The cutaneous method is quite safe, and is to be recommended for routine use by the practitioner. House-dust extracts for intracutaneous testing are prepared according to the method of Coca by extracting dust with a buffered saline solution, and rendered sterile by passage through a Berkefeld filter. For cutaneous testing, I have devised the following method: A wide-mouthed two-ounce bottle is half filled with dust, and sufficient 14-per-cent alcohol is added to make a thin mud. This is allowed to stand for two days or more. A drop of the supernatant fluid on a skin cut is used in the test.

It is important to remember that a positive skin test does not necessarily mean that that substance is a cause of the patient's symptoms, since the conditions of the experiment do not necessarily duplicate natural circumstances. For example, a food protein may give a positive skin test, yet in the course of cooking the protein may be rendered inert from the allergic standpoint, or it may be completely broken down in the digestive tract before absorption, and therefore produce no symptoms. Before we can assign to any protein an etiologic rôle, we must obtain not only a positive skin test but must have clinical proof, in that avoidance of the substance relieves symptoms or that exposure to it brings about symptoms. This accounts for the overestimation of the importance of foods in the earlier work. In my own experience, while 15 to 20 per cent of cases give one or more positive food tests, less than 2 per cent can be clinically proved.

The following case is illustrative: A man of thirty-nine had had typical asthma for two years. During this time he had lived constantly in a certain house. He was sent to the University Hospital, where tests were made and positive reactions obtained to about a dozen foods, while tests with stock dust extracts were negative. A few days after his admission to the hospital he became symptom-free and remained so. Yet in the hospital his diet included the foods to which he had reacted positively. Here the tests said "food," but the history said "dust." Dust from his home was then obtained, and extracts made which yielded strongly positive reactions.

What of the nonsensitive cases? Next to sensitization, by far the most important factor in asthma is infection of the respiratory tract. Bronchial infection may itself cause asthma, producing the clinical picture called "asthmatic bronchitis," and repeated winter colds may prepare the soil for a dust sensitization. Infection sooner or later complicates all cases of asthma, whatever be their cause, and the prognosis in any case depends largely on the amount of permanent lung damage that infection has produced. Many cases that begin as a seasonal pollen asthma are prolonged into the fall and winter, and finally become perennial because of complicating infection. It is, therefore, a fundamental principle in the examination of these patients to search for focal infection. Of the sinuses, the ethmoids are the worst offenders.

Asthma was long considered, and by some still is, to be due to reflex stimuli arising in various parts of the body. Gastric and pelvic disease, it is true, may precipitate symptoms in a patient sensitive to foreign protein, but it is probably true that if contact with the protein can be avoided such reflex stimuli will be inert. An exception to this must be made in the case of nasal disease. We have all seen patients in whom

the removal of nasal polyps or the drainage of an infected sinus has promptly cured asthma. Unfortunately, however, these cases are in the great minority, and nearly every asthmatic can tell of one or more futile nasal operations.

The European writers speak of an imbalance between the vagus and sympathetic systems as a possible explanation of asthma, the stimulus for the paroxysm arising presumably in the periphery, being carried to the vagal centers by way of sympathetic fibers, and passing thence to the bronchial musculature by way of the vagus. This has led recently to the surgical treatment of asthma by a unilateral section of either vagus or sympathetic nerves, in an attempt to interrupt this reflex path. The results are as yet uncertain, and the procedure one of last resort.

An occasional case seems to have an endocrine origin. Ross and Rolleston have reported the case of a woman in whom asthma developed promptly after the production of an artificial menopause by radium. Sensitization studies were negative, and for a year all methods of treatment failed. Three days after the administration of ovarian and mammary extracts was begun, the asthma ceased and after eleven months the patient was still free of symptoms.

In order to be satisfactory, a diagnosis must be complete. The finding of one or two positive skin tests does not mean that we need look no further, for multiple sensitization is the rule rather than the exception. Whenever practicable, the physician should visit the patient's home and make a survey of such things as furniture, rugs, and hangings.

Bronchoscopy is a valuable aid in the study of these cases. Cases of chronic cough of an obscure etiology are sometimes found on bronchoscopy to have the typical pallid swollen mucosa of asthma, and subsequent sensitization tests clear up the problem. Bacterial cultures of the sputum, uncontaminated by mouth flora, can be obtained through the bronchoscope, and satisfactory autogenous vaccines are readily available.

Treatment may be considered under the headings of specific and adjuvant.

As for specific treatment, it is a fundamental rule in allergic disease that by far the best results are obtained when the offending substance can be avoided. Active desensitization (or as Cooke has more aptly termed it, hyposensitization) is much less satisfactory, with variable results that as a rule are not permanent.

Foods can usually be avoided. At times, cooking renders the food inert. If the food in question is a common article of diet, such as egg or milk, then active hyposensitization must be attempted. This is preferably done by feeding gradually increasing amounts of the food in question. A child may be given a few drops a day of cow's milk sufficiently diluted so as not to cause a reaction. Each day the quantity and strength is increased until the child is able to take a pint of whole milk. Should any dose be followed by a reaction, the subsequent dose must be smaller. An egg-sensitive child is given hard-boiled egg in small capsules, filling one half the capsule with egg-white and the other with egg-yolk. The purpose of the capsule is to avoid contact of the egg with the oral mucous membrane. Each day, more and larger capsules are given, and then the egg is fed without capsules until the child takes an egg a day. It takes about three or four months to achieve this. Such a patient must continually take a given amount of the particular food every day, in order to retain a state of diminished sensitization.

The animal emanations can usually be avoided; for example, feathers in pillows, animal pets, and the like. However, in the case of patients extremely sensitive to horse dander, it may be necessary to desensitize by injection, since street dust may contain sufficient horse emanation to produce symptoms.

When a patient is sensitive to room dust, a complete change of his surroundings is advisable. He should use another room, preferably without floor covering or with a linoleum, and with a complete change of bedding. All asthmatics should avoid straw mattings and grass or fiber rugs. Pillows stuffed with silk floss or cotton are preferable to feathers. Such a change is commonly followed by prompt relief. This relief unfortunately is very often only temporary. After four or five months the patient may have a return of asthma, usually introduced by an acute respiratory infection, and it is often found that he is sensitive to the dust in his new surroundings. Another change is then indicated. Experience is showing the value of desensitization in these cases by the injection of increasing doses of dust extract.

When it comes to pollens, avoidance is often practically impossible, and desensitization must be used. Patients are commonly sensitive to several of a group of related pollens. For instance, patients with early summer hay fever usually react to most of the grasses. Under these circumstances, one should select for treatment the pollens which give the strongest skin reactions and are at the same time the commonest in the patient's surroundings. The grasses are biologically so closely related that desensitization with one pollen offers considerable, though not complete, protection against the whole group.

In the autumnal cases in Pennsylvania, it is best to use both short and giant ragweed.

The results in the pollen cases depend upon the mode of administration, the material used, and the type of hay fever. Best results are obtained when treatment is begun three months before the pollen season, injections being given at intervals of five to seven days, and stopped at the beginning of the pollen season. If symptoms develop, smaller doses of the weaker dilutions may be given at three- to five-day intervals during the pollen season.

As regards material for treatment, the practitioner is dependent on the commercial houses. In selecting his material, he should bear in mind the following points: no two patients are equally sensitive, and therefore a "rubber-stamp" dosage will not fit all cases. Our aim is to give the patient at each dose the largest amount of pollen that he can tolerate without suffering a general reaction, and this will obviously vary from case to case. A treatment set that allows of no flexibility of dosage is therefore useless. For the same reason, we shall not obtain the best results if we follow exactly the dose schedules as outlined by the manufacturers. Their dosage may be satisfactory in the more sensitive patients but inadequate in many others. Grass cases give much better results than do the ragweed type. The early summer cases are practically all benefited, and in most instances totally relieved. With the ragweed cases, however, not over twenty-five per cent have complete relief, and in about ten per cent there is no relief at all.

Patients ask: "Must I have these injections every year?" Experience does not yet go sufficiently far to answer this. An occasional case seems to be permanently relieved by a single season's treatment, and in an increasing number of instances two or more years' treatment seems to give permanent relief. The results are as a rule better each successive year, though not invariably so. Even though there is complete relief after the cessation of treatment, these patients still show positive skin tests to their particular pollen.

A cause for failure in the pollen cases is the undoubted occurrence of a concomitant sensitization to another inhaled substance such as dust, feathers, and the like that has been overlooked. These cases again furnish proof that an individual, although sensitive to a dust, may show no symptoms when exposed to it unless he also has at the same time an irritated and therefore permeable bronchial mucous membrane.

The following is a case in point: A man suffering with autumnal hay fever was examined by a physician and found sensitive to ragweed pollen, while stock dust gave a negative reaction. Yet treatment in three successive years was a total failure. I repeated the tests of the other physician with the same results; namely, positive ragweed reactions and negative stock-dust reactions. However, a dust extract prepared from the dust of his own home gave a strongly positive reaction. In the following two years he was given both ragweed and dust extract with complete relief.

Next in importance to specific treatment is the treatment of infection. This includes the elimination of infected foci such as sinuses and tonsils, but at this point let me sound a word of warning. I quite agree that polyps should be removed and obviously infected sinuses drained, but I do not believe that every deflected septum should be resected, every tiny spur excised, every turbinate clipped just because the patient is an asthmatic. There are altogether too many unnecessary nasal operations performed in these cases. Piness has recently reported over eight hundred asthmatics in whom one or more nasal operations were performed without relief.

Vaccines are useful in the treatment of infection. Autogenous sputum cultures are preferable to stock vaccines. If there is no improvement after three or four doses of a vaccine, or if no reaction is experienced, that vaccine should be discarded and a new one prepared. Bronchoscopy is useful in selected cases for direct local treatment of the tracheobronchial mucosa.

Change of climate is often beneficial, but it should be advised with care. The asthmatic is a great traveler in search of relief, and only too often he wastes his substance in a series of ill-advised migrations. Change of residence may help in two ways: first, by getting away from a local cause, such as the dust of a house or occupation, and then by the climatic influence on secondary bronchial infection. Asthmatics should live in a warm, equable climate, moderately dry rather than on the sea coast. They do not tolerate very high altitudes.

The use of drugs is subdivided into the treatment of the attack and that in the interval. Adrenalin is undoubtedly the most useful drug. It should be given early in the attack, and doses of 3 to 5 minims of a 1 : 1000 solution are usually adequate. The common mistake is to give too much, or too strong a solution, thereby producing disagreeable after-effects. When patients administer the drug to themselves, it is best to have the adrenalin put up in ampoules containing 1 c.c. of 1 : 2600 or 1 : 3200 or even 1 : 10,000 strength. It was formerly believed that the prolonged use of adrenalin gave rise to serious trouble such as arteriosclerosis, but experience

has shown that this is not the case. The effect of adrenalin is often enhanced by the addition of pituitrin, and this combination forms the basis of several proprietary asthma remedies.

Through the courtesy of Drs. Carl Schmidt and T. Grier Miller, I have had the opportunity to use a new drug, ephedrin, the active principle of the Chinese drug, mah huang, that in chemical composition and physiologic action somewhat resembles adrenalin; with this difference, however, that its effects on blood pressure are more prolonged, and can be obtained when the drug is given by mouth. Preliminary observations seem to show that the drug tends to lessen the severity of attacks and decreases the amount of adrenalin necessary to control them, but cannot fully supplant adrenalin. The usual dose is one grain several times a day. The use of the various asthma powders and smoke inhalations is to be condemned. It is true that these substances give temporary relief (at times we must use them because nothing else will relieve), but their continued use results in additional bronchial irritation, and only increases bronchial infection. Morphin should be shunned because of the great danger of addiction.

Between attacks, the time-honored antispasmodics, belladonna, lobelia, and stramonium, are of great value. Calcium lactate in doses of 10 to 15 grains three times a day is useful in both asthma and hay fever. Much was hoped from the recently introduced drug, benzyl benzoate, but unfortunately the results have not been encouraging. Perhaps one case in thirty is strikingly benefited, while the rest are not helped at all. Nevertheless it is worthy of a routine trial. Potassium iodid is indicated in practically all cases. To obtain the best results, it should be given in small doses, not over 5 grains, two or three times a day over long periods of time.

Various forms of nonspecific protein therapy have been advocated, such as the intravenous injection of peptone, iodid solutions, and bacterial vaccines. The results are variable, and for the most part unsatisfactory. However, when other measures have failed, these are still worth trying.

We are wont to believe that the use of chill reactions as nonspecific therapeutic agents is a modern development. Recently, attention has been attracted by the treatment of paresis and some other conditions by means of the chills of malaria with which the patient is purposely infected. Let me quote from the lectures of Dr. Chapman on *The Practice of Physic,* as delivered in the University of Pennsylvania in 1818. In speaking of malarial fevers he says: "The intermittents do sometimes cure other diseases as gout, rheumatism, acute and chronic; chronic cutaneous eruptions are also frequently cured by them; spasmodic complaints as chorea, epilepsy, *asthma,* hysteria, mania, and especially melancholia. I have told you it is the fashion in Europe to send patients with pulmonic complaints to miasmatic countries, and you have heard of the practice being used in our own country."

What of the results of treatment? Do we cure asthmatic patients? If by cure is meant the rendering of the patient nonsensitive, then the answer must be "no." Sensitive patients will always develop asthma if exposed to the substance to which they are sensitive in sufficient concentration. We can, however, completely relieve the patient if the sensitizing substance can be entirely avoided and if no permanent lung damage has been done. That, for practical purposes, constitutes a cure. The prognosis is better when the patient is sensitive to only one or two substances, and correspondingly poor when there is pronounced multiple sensitization. In the nonsensitive cases and in those sensitive cases in which there is prolonged secondary infection, emphysema and resultant myocardial weakness, the outlook is not good. It is important, therefore, that these cases be diagnosed and thoroughly studied as early as possible, and this is the responsibility of the general practitioner.

906 Medical Arts Building.

Psychologists Debate Children's Reactions

Psychological reaction of children's minds to first impressions was the topic of discussion at an informal meeting of psychologists from Eastern colleges recently held in the psychological laboratory of the University of Pennsylvania. Guidance of children in right paths by teaching the proper aspect of certain situations, and guidance of the mental development in adolescence, was given as the best inhibitor of the development of law-breaking and criminal natures. That criminal tendencies are usually generated by the wrong psychological reaction to certain occurrences brought to public notice was the delegates' consensus of opinion. Hero worship of crime addicts and almost idolatrous devotion to the ideals of hardened criminals of national repute were said to be the greatest breeders of crime among the children of America.

What is Health?—Health is not merely freedom from illness; it is not merely sufficient vigor. Health means the possession of a reserve force of strength and energy, and childhood is the time to build up this reserve. It is, therefore, important for the child's future that he be taught health.

An intensive study of blood-pressure cases has shown that the obese are particularly prone to high blood pressure, the undernourished to low blood pressure. Correction of either favorably affects the patient.

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EDITORIALS

SUMMER CAMPS FOR MALNOURISHED CHILDREN

The condition of malnutrition among the school children of this country is both widespread and serious. Both the children of school age and those of preschool age are affected, but apparently the larger percentage is to be found among the individuals of the former group.

No authoritative statistics on malnutrition can be given here, and popular estimates are often so unreliable and misleading that they are also omitted. However, many of the leaders in public-health work, especially those dealing with children, unanimously agree that malnutrition is very prevalent, and constitutes a real menace to our American boys and girls.

On first thought, one might conclude that the greatest number and the worst cases of malnutrition would be found in our crowded cities and among the poorest families. This supposition, however, does not always seem to be borne out by the actual facts. In certain localities a surprising amount of malnutrition is to be found in the country districts where there should be an abundance of good food and fresh air. Malnutrition is not necessarily a condition confined to the poor alone, but is also prevalent among the children of the wealthier classes.

Listed in the order of their importance and frequency, the causes of malnutrition are: physical defects, lack of home control, overfatigue, faulty food habits, and faulty health habits. The bodily signs of this condition include paleness, lines under the eyes, mouth breathing, flabby muscles, round shoulders, projecting shoulder blades, fatigue posture, curvature of the spine, and prominent abdomen, while the nervous signs are restlessness, contrariness, timidity, forgetfulness, inattention, and irritability.

It goes without saying that so prevalent and serious a departure from normal health among our boys and girls needs the most careful study of the medical profession and other scientific workers, and as well the interest and coöperation of parents, teachers, and all others responsible for the care and teaching of children.

Parents oftentimes do not recognize that their children are suffering from moderate or even advanced degrees of malnutrition, but believe that this condition in the children is a hereditary characteristic, and not a physical weakness demanding treatment. While it must not be overlooked that some recent investigators present evidence pointing to three definite types of individuals—the thin, intermediate, and stocky types—and these types should be definitely kept in mind when checking up the presence or absence of malnutrition, we do not believe it will be difficult for the physician to arrive at a correct diagnosis in most cases, provided he first makes a careful examination of the child, and notes the physical signs and symptoms present.

Another serious fallacy which some fathers and mothers harbor, to the detriment of these malnourished children, is that they will sooner or later grow out of this condition, so why worry or fuss about giving them any special attention. The tragedy of such a blind faith on the part of parents is that, as a rule, children of school age do not spontaneously recover from malnutrition. The school program is generally sufficiently heavy to demand all the spare time and energy of the child, and to add to the school work extra social, home, and other responsibilities places far too many barriers in the path of the child for him safely and easily to reach the goal of good health and normal growth and development.

While it is not true that all badly nourished children are likely to develop tuberculosis, we believe it can safely be affirmed that many adults now suffering from tuberculosis were formerly in the class of badly malnourished children.

The summer-camp idea, when worked out practically and successfully for the benefit of the above-mentioned children, is one of the best demonstrations any community can make in the interests of disease prevention and positive health building. But in order to have such a camp established and maintained in a practical and successful manner, certain objectives must be clearly outlined and strictly adhered to. A few of these fundamentals are:

First. *Such camps should be conducted primarily for giving treatment to those needing it, and only secondarily for recreational purposes.* Therefore, a careful selection of children is necessary, and only cases ten per cent and more underweight should be selected. Before they enter camp, these children should have their physical defects (particularly as regards teeth, eyes, tonsils, and adenoids) corrected, so that they will be "free to gain."

Second. Children who are manifestly tuberculous should not be accepted for summer-camp treatment. Experience has proved that this limitation is necessary, inasmuch as tuberculous children need more absolute rest treatment, and need it over a much longer period of time than those that are simply malnourished. Therefore it is unwise and impractical to try and treat the two classes together with the same routine.

Third. Daily rest periods, an abundance of fresh, wholesome, natural foods, and sun treatment (*according to the Rollier method*) are the three essential therapeutic measures which should form the basis of treatment for any summer camp of this kind, and without which the greatest benefit in the shortest time cannot accrue to these malnourished little ones.

Many cases of malnutrition are caused, or at least aggravated, by the daily expenditure on the part of the child of an excessive amount of energy. Until one is able to restore in the child the proper balance on the one hand between rest and the intake of food and oxygen, and on the other hand the output of energy, whether of physical exertion, mental activity, or emotional stress, one cannot expect any kind of therapeutic measures to be successful in overcoming malnutrition. Vigorous, prolonged, or exhausting exercises are wholly contraindicated for this group of children until they have almost or completely reached and maintained for a reasonable period their proper weight level.

It is hard to believe that growing children can or will overeat, provided they are always supplied with only fresh, wholesome, natural foods, and are taught not to bolt their food, nor to eat when overheated or overtired. The three substantial meals a day, in which whole-grain cereals and their products, fresh leafy vegetables, fresh fruits, and milk should form the bulk of the diet, may be supplemented by light lunches—mid-morning, mid-afternoon, and before retiring—if the children are not gaining as rapidly as they should under regular camp régime, and if it does not spoil the appetite for regular meals.

Sun treatment for the past several years has been used extensively and with varying results throughout the country. *Only the "Rollier method" is to be recommended.* This requires the closest supervision of all cases by physician or nurse trained in the technic of heliotherapy. By this method the body is exposed gradually, increasing the amount of surface exposed and the length of exposure daily, until after several weeks or months the whole body may be exposed with impunity. Sun treatment cannot be given through clothing. The children in some of the successful summer camps have worn a minimum amount of clothing, frequently only a loin cloth.

Fourth. Records should be kept of the physical findings of the children treated, and the improvements made. They should be followed up during the whole year after leaving the camp, and should be examined at definite periods and the records kept up to date. Only by the making and keeping of records which will include the essential factors and progress of each case will the full value of such camps be conserved for the benefit of others.

When it is possible, photographic records of each child on admission and discharge should be made and preserved. In some cases, perhaps, additional photographs during the course of treatment may be found desirable. These photographs should be taken with all possible uniformity as to conditions of lights and shadows, size of negative, and distance from and position of the child in relation to the camera; they should show posture, general condition of nutrition, musculature, tanning, facial expression, etc., and should attempt to portray faithfully and accurately the conditions found. Pictures taken for publicity purposes are sometimes grossly exaggerated in order to create the best possible impressions as to *"before"* and *"after"* treatment, and for this very reason they are of little scientific value because they are not wholly truthful.

Adequate records and accurate photographs gathered from summer camps would offer a

splendid opportunity for future worth-while studies in the value of this method of treating malnutrition.

Promoters of summer camps for malnutrition should catch the vision that this work is only a part of the larger scheme of "collective research" through which some of the vital health problems of today may be eventually solved.

Fifth. It would seem possible for every city of 5,000 inhabitants or over to establish and maintain such a camp for malnourished children. Surely in every community where there are 1,000 or 1,200 individuals of school age, enough children who need just such service could easily be found and cared for during a six- or eight-weeks' period in the summer. Expensive equipment is not neessary for the first year's work. Locations can generally be found not too far from the section which supplies the children, and the various service clubs and volunteer and official health agencies can generally be interested to the extent of giving both moral and financial support. A small camp, rightly conducted, and limited to this group of physically substandard children makes a powerful appeal to the general public, and should have little difficulty year by year in maintaining itself, and finally in being placed on a permanent basis as one of the most important health activities in the community.

MUSSOLINI LAUDS MODERN SURGERY

Just before the attempt was made on his life outside the capitol, April 7, Premier Mussolini inaugurated the International Congress of Surgery with a stirring speech. He greeted the delegates as "illustrious masters of the surgical art through which medical science throughout the centuries has achieved its greatest and most glorious conquests." He emphasized the ideals and valor of surgery, saying that followers of this science must possess the highest intelligence and most profound energy of character to rescue men from the ailments which threatened their lives.

The Premier reviewed the history of surgery, which he said started in Italy with the Salerno school, and reached one of its most glorious periods in the Renaissance with the four illustrious masters, Andrew Vesalius, Wurtzins, P. Paracelsus, and Ambroise Paré. He recalled how Paré, who began as a barber-shop surgeon in Paris, followed the French Kings, Francis II, Charles IX, and Henry III, in their wars, and that he was the first to save the lives of wounded soldiers by substituting bandaging methods for the old methods of cauterization and amputation. He told how Paré, leaning over a patient, raised his eyes to heaven and exclaimed, "I have bandaged it, but God is healing it."

The Premier finished by saying that while soldiers are able to rest, since even the most bitter wars come to an end, the fight of the surgeon never ceases until the last day of his existence. "The surgeon remains on the battlefield trying to save those wounded in the struggle of life, who are more numerous than those wounded in actual war."

Signor Mussolini's speech was greeted by a great wave of applause, none imagining that a few minutes later he would again be one of those who required the surgeon's ministrations.

WILLIAM POTTER

William Potter, venerable president of Jefferson Medical College and Hospital, died April 29, following an operation for gangrenous appendicitis. He was seventy-four.

Most frequently connected in the public mind with the post of Minister to Italy before that post was elevated to an embassy, and wartime fuel administrator of Pennsylvania, Mr. Potter had to his credit equally great achievements in the fields of medical education, civic affairs, reform and nonpartisan politics, big business, and international social amity.

Mr. Potter was elected to the Board of Trustees of Jefferson Medical College in 1894, and was elevated to its presidency in 1896, and the remainder of his life was dedicated to that institution. His was the chief impulse behind the great strides which Jefferson has taken. His was the faith and courage which have been to that institution an invaluable endowment.

Charm of personality and the manifestation of traits typically Philadelphian, endeared him to all.

Although with heart and soul he toiled daily in the vineyard at Jefferson, he was active in the management of Girard College and the Institute for the Deaf and Dumb.

THE RAISING OF CHILDREN

The current article on "Psychic, Nervous, and Mechanical Factors in Digestive Disorders of Childhood" is called to the attention of our readers, as it affords many reminders of the problems incident to the raising of children. The general practitioner plays such an important rôle in preventive medicine that he must be alert to

ferret out conditions that need correction, and ever be ready to instruct the parents and guardians of children. He must appreciate the value of nutrition, and its vital importance at every age, but more especially in childhood.

The reference to parents trying to teach children "to be smart" in the presence of visitors, is timely. One of the frequent complaints of parents is "my child will not eat." The physician too frequently does not take heed of the import of this statement; he would do well to appreciate the reference in the article to the subject of anorexia. Attention is called very aptly to the evils of pacifiers. Too frequently we are prone not to be firm in our advice against this pernicious evil. The reference to certain symptoms incident to the eruption of teeth is timely. We agree with the author that the "cutting of teeth" is a normal physiologic process, but not infrequently may be accompanied by certain reflex symptoms that cannot be dissociated from the eruption of the tooth. On the other hand, we do not agree with the statement in regard to "lancing the gums," as it is very popularly known among the laity. Should the tooth not erupt soon after the incision is made, the process of eruption is made more difficult by the resultant scar tissue, or the tooth may erupt out of alignment. After all is said and done, a silver thimble is a very satisfactory object upon which children may bite to "cut" their teeth, unless they are so fortunate as to be born with a gold thimble, instead of a spoon in their mouth.

The article is replete with many references of sufficient value to make it very well worth reading by all practitioners.

INFANT FEEDING ONCE MORE

Under this caption will be found an article in the current number of the JOURNAL, laying stress upon certain facts which must be reiterated until the desired results have been obtained.

There is no argument as to the advisability of the mothers nursing their babies wholly or in part. It is their bounden duty so to do. The physician and the laity must realize the far-reaching importance of this dictum, and the mothers must be made to realize the reasons why they should fulfill this obligation to their babies. There should be no mincing matters upon the part of the physician. His duty is to advise and instruct the mother in this regard. Owing to social events, and for other equally insufficient reasons, mothers will often hold out for artificial feeding, wholly or in part, but the physician must turn a deaf ear to all such entreaties. The medical profession must present a united front that the mother, if lactation permits, must nurse her baby wholly or in part.

It is very true that the greatest of difficulty is experienced too frequently in the efforts to increase the quantity of milk. One mistake is to assume that a woman will increase her milk by drinking milk. We agree with the statement that "milk is a food, not a beverage," and that "the usual result of forcing milk in feeding is to create maternal adipose, and not baby flesh."

In regard to boiling cow's milk, we have been impressed with the unfortunate statements made to members of the household by the milkmen, that the certified milk which they serve is so pure and clean that it never needs to be boiled. To quote again, when cow's milk is being used in the artificial feeding of infants "get milk as clean as you can, of as uniform a composition as you can, then boil it to make it beyond suspicion."

We believe that no physician should approach a difficult feeding case who has not time to give to it, and that "with training the general practitioner may often do this work successfully." If he finds he is not successful, or has not the time or inclination, he should recommend some one qualified to carry out the precepts of artificial feeding.

It is our opinion that in hospital practice, all babies requiring artificial feeding during the puerperium should be placed under the care of the pediatrician, as the results obtained in those institutions where this procedure is routinely observed are far better than where these infants remain under the care of the obstetrician. The same principles can be applied to private practice.

The questions involved in artificial feeding are numerous, and the responsibilities too great to be treated lightly by our profession. Infantile morbidity and mortality are still too high, and one of the methods to help reduce them to an absolute minimum is for the physicians to acquire the necessary training to conduct artificial feeding properly, to realize in time when they are not obtaining the desired result and to refer the patient to a pediatrician for further advice, and to take a positive stand that when possible the mother must nurse her baby wholly or in part.

THE SYMPOSIUM ON AURAL DISEASES

In this number of the JOURNAL is a symposium on aural diseases. The importance of a general knowledge of aural conditions is not to be overlooked. We desire to call especial attention to one phase of this question; namely, impairment

of hearing. There is no question that the loss of vision is the greatest calamity, and next to this in the loss of senses, must be considered impairment of and loss of hearing.

One cannot appreciate what it means to have an impairment of hearing until he has experienced it. The embarrassment incident to it sooner or later drives the one so afflicted to a self-imposed solitude. He shuns society because he cannot take part in conversations. He is denied concerts and the legitimate drama, and of necessity becomes a "movie fan." If a physician, no longer can he take part in the deliberations of his medical societies. He can read a paper, but is greatly handicapped in its discussion.

The hard of hearing may be helped by learning lip reading, and toward this end schools are being established here and there to afford this instruction. In some places, night courses are given. In a partial survey of the public schools in Baltimore, it is estimated there are 4,000 hard-of-hearing children. Circulars were issued this year to all teachers advising them how to discover and care for cases of potential deafness. In Chicago, about 1,000 school children are sufficiently hard of hearing to require instruction in lip reading.

"Some men have become great not only in relation to their deafness, but in all the activities of life. 'The Letters of Horace Howard Furness' remain the veritable human document of deafness." Not infrequently, one hard of hearing has been compelled to give up the profession or work for which he was prepared, to enter into a new field. "To many of those, deafness was a Parthian arrow from fate, after the life lines had seen set, to be put up with and made the best of for what of life was left." To become master of the art of being deaf is an accomplishment.

Little, thoughtful services which may pass unnoticed by others mean much to one who is as socially handicapped as a hard-of-hearing person.

The following quotation from "Ears and the Man," written by three hard-of-hearing women, is well worth while: "Recreation work must step in to overcome reluctance to meet people. The glow of happiness brought about by recreation in the company of other deafened people should carry the individual into normal association with all people. Gradually he should become so reconstructed that he can not only return to the hearing world in the peace of mind which arises through the conquest of his depression and isolation, but should find himself equipped, as well, with the ability to take the initiative in efforts to bring about a better attitude toward deafness in every hearing person whom he meets. If the organization cannot do just this thing, but rather incites them to cling to one another in a little world where deafness appears to be the normal condition, it has failed."

One of the most commendable publications is the *Volta Review,* for the deaf, the hard of hearing, and their friends.

Much is being done to make deaf or hard-of-hearing children as normal as possible by teaching them speech and lip reading; by carrying to remote corners the idea that a deaf child can be successfully educated; and by the stimulation of invention of devices to aid the hearing.

The American Telephone and Telegraph Company has a mechanism called "a deaf set" which is available for installation by the Bell Companies for subscribers of impaired hearing. The totally deaf will not be aided by it. A careful test is always made before a deaf set is installed in place of the ordinary telephone equipment in order to determine whether it will meet the requirements of the prospective user.

Our plea is that more thought and efficient care and attention be given by the medical profession to the aural diseases, to the end that the hard of hearing, so frequently by-products of carelessness, indifference, and neglect, may be greatly reduced in numbers.

DERMATITIS FROM RHUS TOXICODENDRON (POISON IVY)

Within the past few years attention has been directed towards greater efficiency in the treatment of that form of dermatitis venenata which is caused by poison ivy. The recognition of this malady with its characteristic vesicles and blebs, usually in streak-like arrangement, is too well-known to require any comment. It is in the treatment of this affection, however, that advances have been made which are worthy of discussion.

The active principle of the poison-ivy plant still remains unisolated. However, it is generally agreed that it is not a volatile substance. It is now recognized that a highly susceptible person may contract a dermatitis venenata without direct contact with the poisonous plant, and that the poisonous principle can be transmitted through contact with clothing infected with the poisonous material or through flies, caterpillars, etc., acting as carriers.

Where a person who is known to be susceptible to ivy poisoning happens to come in contact with the leaves of that plant, an attack of dermatitis venenata may frequently be prevented if

that person uses the following measures within a half hour or so after exposure: a warm bath, using a highly alkaline soap such as Star soap; thorough drying of the skin, followed by the application of alcohol or benzene, giving special attention to the parts exposed; and finally massaging the skin thoroughly with a bland oil such as olive oil.

After lesions of poison-ivy dermatitis have appeared, soap and water and similar irritants are of course contraindicated. For many years past, reliance has been placed on local applications alone in the treatment of this affection. It is indeed true enough that mild cases of this affection respond quickly and satisfactorily to these measures. The rapidly spreading and severe forms rarely seem to yield satisfactorily to these local applications, for many pass into chronic eczemas requiring months, and in some cases, years of treatment, with a few never fully recovering.

For many years past, legends and related tales have percolated from the western wilds concerning a sure prevention of ivy poisoning which consisted of the chewing of a small quantity of the poison-ivy leaves daily. This procedure appealed to Dr. Albert Strickler, and resulted in the so-called antigen method of treating ivy poisoning.

This method consists in the injection of a partly alcoholic and partly aqueous solution of the active principle derived from the leaves of the poison-ivy plant. That this antigen contains the active principle has been amply attested by reports from susceptible physicians who have accidentally spilled some of this remedy on their fingers, and as a result have developed the typical vesicular streaking of poison-ivy dermatitis.

Treatment of a patient during the acute eruptive stage consists in giving four intramuscular injections. These are preferably to be given in the outer part of the arm. The first two doses are to be given twenty-four hours apart, and the next two at twenty-four to seventy-two-hour intervals. The first dose should be 0.5 of a c.c., the second 0.6 of a c.c., the third and fourth doses anywhere from 0.4 to 0.8 of a c.c. or even 1.0 c.c., depending upon the severity of the cases. In over ninety per cent of those treated by the antigen, marked improvement has been noted after the second injection. If no change results after two doses of the antigen, treatment should be discontinued. The main reason for failure is that the infecting plant has been other than poison ivy.

For desensitization, the injections are to be given three days apart, the dose being 0.5 of a c.c. at each treatment. This is to be followed by mouth treatment, using the tincture of Rhus toxicodendron in the following dosages: first week, 20 drops of the tincture well diluted in water three times a day after meals; second week, 30 drops; third and fourth weeks, one teaspoonful similarly administered.

More extensive use of this remedy as a means of desensitization, as well as a curative agent in severe cases, will no doubt further strengthen its important rôle as a curative agent. It is hoped that this brief review will aid in clarifying some of the obscure points relative to the advance made in the treatment and prevention of ivy poisoning.

THE DOCTOR'S PLAYTIME

As a class, doctors do not play enough. Their hours are long, their work depressing, and their opportunity for recreation scant. Their leisure time is apt to be devoted to medical meetings, perusal of medical literature, or study of one kind or another. Their friendships are largely among men of their own profession—when, indeed, they have time to give to friends—and all their activities center around their work.

Yet it must not be forgotten that every man needs recreation and rest if he is to remain healthy and preserve a sane attitude of mind. That "tired feeling" is more apt to come from "staleness" than from overactivity. Among no other class of professional people is a rested body and a clear mind more essential than with the men on whom other folk's lives so often depend. The doctor owes it not only to himself and to his family, but to his patients to care for his own well-being.

A hobby totally removed from the world of medicine is a most excellent thing for any physician to develop. In Paris recently the "Salon des Médecins" presented examples of paintings and sculpture executed by physicians. It was a good idea, and one worth developing in this country. Other men find their outlet in church work, clubs, golf, gardening, and varied activities. It matters not so much what vent the play instinct may have, it is the having *something* outside the regular routine to occupy the leisure hours pleasurably that is necessary to a well-balanced and normal life.

The physician is about the only professional man who is on call all the time, day and night, and in this period when the eight-hour day has been recognized as practically standard for the laborer, it would appear justifiable for doctors to consider some plan that will give them certain hours for their own without fear of being dis-

turbed. This has been one of the strong appeals of the specialties, for the specialist can regulate his hours of work better than can the general practitioner. It is also one of the strongest arguments in favor of group medicine. The members of a clinic can take their turn attending to the night work, so that all will have some opportunity to devote to their physical and spiritual betterment—in other words, to play.

JOTS AND TITTLES

General Practice and State Aid

Dr. Joseph Stokes, of Moorestown, N. J., in an address on "General Practice as a Medical Career," before the Undergraduate Medical Society of the Medical School of the University of Pennsylvania, stated that unless there is some change in opinion which will turn more graduate medical students to the general practice of medicine, particularly in the rural districts, some kind of State control may be necessary to provide these unprotected sections with medical aid. He quoted the figures on the diminishing number of physicians in the rural districts as indicative of the trend which he so decried, and showed that the vast majority of rural physicians are over fifty years old; that few young men are taking their places; that in districts unprovided with physicians, infant mortality is increasing; and that physical defects in children which will lead in later years to decreased vitality and serious ill health are being permitted to go uncorrected.

The Cost of Eye Hazards to Industry

The loss of eyes in industrial accidents costs the employers of Pennsylvania more than $800,000 during the last year, and more than $8,000,000 since the enactment of the State Workmen's Compensation Law, according to an analysis of the annual report of the Pennsylvania Department of Labor and Industry made by Lewis H. Carris, managing director of the National Committee for the Prevention of Blindness. "It has always been the conviction of the Committee that eye hazards are the most serious of all nonfatal industrial accident hazards," says Mr. Carris. "Striking evidence of this fact may be had in the 1925 accident report of the Department, which shows, for instance, that both during the last year and during the entire period since the passage of the Workmen's Compensation Law, the employers of Pennsylvania have found it necessary to pay more money as compensation for loss of eyes than for all accidents resulting in loss of legs, loss of arms, and loss of hands combined."

Music as a Job Not Therapeutic

Dr. W. E. Dentinger, of Riverside, Conn., is quoted by a writer in the Hartford *Courant* as saying that "Any one who can play two hymns a day need never be tired." It's a safe bet that this physician who so ardently advocates music in treatment of disease never guided wriggling youngsters through their first musical steps for some eight hours a day, then directed the village choir all evening, played the squeaky church organ on Sundays, and tried during "leisure" hours to get in a bit of practice on the side. If he had, he would realize that music, like any other job, gets to be a task. As a dessert, it's a most agreeable relaxation; but for a steady diet—well, it's a trifle indigestible. As a matter of fact, it is noteworthy that musicians as a class are temperamentally unstable. While music has its place in treatment of disease, its benefit is largely that of diverting the mind, and it is unwise to wax too enthusiastic about its effects. Furthermore, it is well to remember that music may be stirring, exciting, exotic, or sad, as well as soothing and quieting, and it is just as necessary to suit the music to the needs of the patient as it is to suit the drugs prescribed to his disease.

Pharmacy Ownership

Samuel C. Henry, of Chicago, secretary of the National Association of Retail Druggists asserts in the *P. A. R. D. Bulletin* that retail druggists all over the country will urge the enactment of legislation restricting drug-store ownership to duly registered pharmacists, although "word is being passed along the line that certain interests outside of the retail drug field are opposed to the passage of such laws. Former saloonkeepers, he charges, are invading the ranks of the druggists, and, questioning their purpose, he says their presence is both a menace to the community and a source of shame to the honest druggist. "The retail druggists aim to confine ownership of drug stores to those persons qualified under the law to conduct such establishments. This, in our judgment, is eminently fair. It does not, as some have asserted, create nor tend to create a monopoly. Furthermore, such a condition can never be brought about in the retail drug field so long as our colleges of pharmacy continue to fit men to become registered pharmacists. If such laws are adopted, certain practices now indulged in by persons lacking in pharmaceutical knowledge and training will have to cease. The law, as it exists in most of the states, specifically provides that retail drug stores shall be in charge of registered pharmacists at all times. Are these laws being obeyed by unregistered owners? They are not, as every one acquainted with the facts, including those who oppose ownership legislation, know full well."

Another "Cause" of Cancer Reported

Dr. J. Tissot, professor of general physiology at the Paris Natural History Museum, according to newspaper reports, after four years' experimentation, has announced that cancer is caused by an abnormal form of mildew, almost identical with the mildew of tuberculosis. His theory is that mildew is the original cell from which all life on earth developed, and all animal and vegetable organisms are nothing but highly developed organized mildew. He claims that serums do not prevent the development of tumors, and that hope for those afflicted with cancer, tuberculosis, and other diseases lies in finding a method of reversing the process of decay and restoring the organism affected. Other French scientists comment that his theory is ingenious but mistaken. It is a fact, however, that the trend of scientific thought is away from the infective theory of cancer.

Shortage of Scientific Research Workers

The demand for research workers is exhausting the supply of science teachers in universities, according to Dr. Josiah H. Penniman, provost of the University of Pennsylvania. The research institutes and commercial laboratories require a continually increasing number of men trained in the methods of research, and their demands have been so great during the past few years that many of the most experienced teachers and investigators have been drawn away from the universities, with the result that the teaching staffs of the universi-

ties have been weakened and the training of men for future research is seriously threatened. As a beginning of a solution for the problem, a conference was called by Dr. Penniman of representatives of universities, research institutions, and corporations engaged in research, and discussion was invited of methods of improving university internal organization, provision for future conferences, and establishing an understanding between universities and other agencies interested in the production and use of research workers. Our own suggestion would be either that the universities be subsidized by commercial firms to prosecute their scientific research, thus providing very practical teaching material and permitting the abler scientists to supervise both research and training of future workers; or that the scientists divide their time between the universities and the laboratories, directing both the practical work and the education of the workers. Considering the tremendous growth of the scientific method, some form of coöperation would seem the only possible solution of a difficult problem.

COMMENTS PERTINENT AND IMPERTINENT

The Philadelphia *Bulletin* tells us that there are approximately 900 tons of hay-fever pollen a year produced on waste ground in their city. And Philadelphia's only a speck on the map of Pennsylvania! We wish some obliging mathematician would be good enough to compute the amount that must be produced in the State! Why not get out the dusty legal tomes and start in early to enforce the law against the nuisance weeds? There are comparatively cheap chemical weed killers on the market. Perhaps the larger cities would find it less expensive to supply the necessary quantity free of charge than to prosecute the owners of the waste land that largely harbors this crop.

The American Optical Company is engaged in a campaign "to make America Eye-Conscious," and to this end has just run its fifty-third advertisement in the *Saturday Evening Post*, stressing the need of good vision for children. This good work is much to be commended.

Apropos of Dr. Schmidt's article on ephedrin in the April number of the ATLANTIC, it is interesting to note that Dr. Ko-Kuei Chen, pharmacologist of the University of Wisconsin, has recently described his research work on the drug, saying that it will be a powerful aid in raising the blood pressure, in treatment of asthma and colds, and as an anesthetic. His work, he said, indicated that it is superior to adrenalin.

That the "movies" are decidedly useful to the movement for social regeneration, and provide a counterlure for the drinking resorts is the statement of Professor Labbé, of the French Academy of Medicine. He deposes that the motion pictures and better housing have been the most potent influences in decreasing alcoholism among French workmen.

A new style in conventions, designed to leave everybody fit and fine at the finish, is developing, according to Edward Eyre Hunt, of the United States Department of Commerce. Instead of meeting in large cities, where attendance is often reduced because of giddy urban distractions, gatherings are now being arranged at resorts where a maximum of rest and wholesome recreation may be combined with work. A good arrangement is to hold sessions in the morning, leaving the afternoon free for play, and meeting again in the evening until 10 o'clock only, thus giving every one a chance at a good night's sleep. If the Committee on Scientific Work should be looking for something new in programs, this is a suggestion worth considering.

INDUSTRIAL MEDICINE

Elimination of Avoidable Accidents.—The physician in industry is one who applies the principles of modern medicine and surgery to the industrial worker, sick or well, supplementing the remedial agencies of medicine by the sound application of hygiene, sanitation, and accident prevention, and who, in addition, has an adequate and coöperative appreciation of the social, economic, and administrative problems. It is, therefore, now believed that the difference between a physician in general practice and an industrial physician consists in the latter's appreciation of the problems of industry and the application of the art and science of medicine and surgery to these problems. He is more truly a physician in industry than an industrial physician.

The greatest appeal for industrial medical service and accident prevention is through a demonstrable financial saving in such service. The sound logic of improving health standards and preventing accidents, and the humanitarian element each contribute; but money talks. The idea of showing in dollars and cents the accomplishments of industrial medical service is to be considered, but so many of the premises are unsound and so many variables enter in that one has little confidence in the conclusion.

Recently Dr. J. Howard Beard, of the Illinois Health Service, said that there is an epidemic of injuries prevalent in the United States. Further, he admonished the American Medical Association in Chicago that the work of the great masters of modern medical science in routing contagious diseases must be duplicated in combating the epidemic of industrial and motor accidents and suicides.

The specific can be secured only by arousing intelligent safety campaigns aimed directly at reducing industrial injuries. Employers and employees must each do their share toward insuring the elimination of avoidable accidents. It seems that the safety organization of a plant should come directly under the medical department of industry, and in any event, there should always at all times be the heartiest coöperation between the safety and the medical departments. The medical department certainly sees the immediate results of all injuries, and with its records can readily locate the habitat of greatest frequency of accidents. Hence it can at once start in motion the necessary machinery to prevent a recurrence.

Several Recent Decisions of the Workmen's Compensation Board.—(1) Death from acute nephritis superinduced by inhalation of turpentine fumes held to be accidental injury in course of employment.

(2) The claimant was injured by escaping ammonia from an ice machine, from which a gasket had blown off, the ammonia striking him in the face. He received medical attention, remained off duty for a week, worked one week, then became disabled, and was eventually admitted to a sanatorium for consumptives. The Referee awarded compensation, and defendant appealed. The Board referred the record for examination to an impartial physician, Dr. Robert G. Torrey, Philadelphia, and adopted the view expressed in his opinion "that the claimant was accidentally injured by ammonia, and that this accidental injury most probably caused his subsequent disability by injuring the air passages and lungs and causing an inactive tuberculosis to become active and progressive."

(3) The claimant sustained severe injuries in a mine explosion which produced disability extending

over a period of about four weeks, and a second injury six months later, also resulting in about four weeks' loss of time. The injuries were held to be a contributing factor in lighting up a tuberculous condition which resulted in total disability.

Women in Canneries.—The maintenance of proper sanitary conditions is of the utmost importance in canneries which are working entirely with food products, but the problem of sanitation and disposal of refuse in canneries is aggravated by the fact that most of the canneries are located in the country districts and have no modern water supply or sewerage system. A recent survey has disclosed the following facts:

Drinking water was usually provided in the canneries, the water supply being pumped from a well into a high storage tank, then piped through the cannery. No individual drinking cups were provided, the workers usually drinking from the cans. The drinking equipment in four canneries was an open bucket of water, with a common drinking dipper.

The usual washing facility for cannery workers was a trough or tank supplied by a spigot of cold water, where the buckets and trays used for the vegetables were also washed. The requirements of the Woman's Act that women employees should have a separate wash room was almost universally disregarded.

In all but three of the fifty canneries, toilets were outside privies. Very few of these were properly constructed or in good condition. At least fifteen of them were wholly unfit for human use. Some canneries failed to provide separate toilet accommodations for men and women, and many failed to designate the sex when more than one toilet was provided.

The requirements for plant cleanliness not so immediately affecting the product were less scrupulously followed. Thirty employers permitted the women preparing the tomatoes or other products to go without the required washable caps. In a few canneries unwashable clothing was worn by the women, and unused clothing was hanging on the walls near the food preparation, both being violations of the regulations. Only ten canneries had the required notices posted prohibiting insanitary practices.

The method of the disposal of refuse is one of the hardest problems for the canner, and it varies with the product being canned. Corn husks and pea vines were often stacked to be hauled away later by farmers. The peelings and cores of apples were dried and sold. Tomato peelings and slop offered the greatest difficulty. Frequently they were dumped into a stream, supposedly to be washed away; but this system was seldom satisfactory. Hauling away the tomato waste and spreading it thinly over fields was less offensive, and was a common practice. Half of the canneries failed to dispose of their waste according to the requirements of the Regulations.—*Labor and Industry,* Pennsylvania Department of L. and I., Vol. XII, 12.

Labor Camps.—Labor camps present the most difficult aspect of the seasonal cannery problem. The camp usually consists of long one-story barracklike buildings partitioned off into small rooms, and a central place for cooking under a sort of shelter, scarcely worthy of the name of kitchen. Occasionally the shacks are built separate from each other. These dingy shacks are found huddled together on a low level of ground, and a more desolate sight can hardly be imagined. Here the overcrowding and lack of privacy of a congested city slum have their parallel in the open country. The wooden floors of the barracks in five camps were too close to the ground to admit of the free circulation of air that the requirements of the *Regulations for Canneries specify.* One window to a room was the usual number found, but a transom, required by the Regulations, for cross ventilation, was missing everywhere. In five canneries windows were without glass, and in all except one they were without the screening that the *Regulations for Canneries* require as a protection against intruders. Partitions frequently were not according to standard. In one instance, a partition lacking two or three feet of reaching the ceiling, and containing many large cracks separated a room in which four or five young girls slept, from a room which was the sleeping quarters for the single men.

Overcrowding was rife in these labor camps. One room to a family and one bunk to a room, regardless of age and sex, was the common allotment. Six persons sleeping in one bunk was common; nine in one bunk was found in one place. Many people were sleeping not only without adequate bed space, but without half the 400 cubic feet of air space specified by the *Regulations for Canneries* as the minimum for each person. In nearly half of these camps the bunks filled with straw were built directly on the floor.

The toilets in labor camps were all outside privies. Their condition was universally bad. Only one labor camp had privies meeting even one half the requirements of the Regulations. These Regulations provide that privies must be separate and designated for each sex; must be a specified distance from living quarters or other toilets; must be constructed with water-tight and fly-proof vaults; have fly-proof ventilation openings; have entrance screens; and be kept clean. Two thirds of these privies apparently were never cleaned during the season, and many of them had open, overflowing pits.

The water supply for most of the camps was passable, but usually one pump or hydrant served the whole camp. In one camp, water from an open spring which rose within a few feet of an unprotected and disgustingly dirty privy, was piped a short distance below into an uncovered half-barrel. This was the water supply for twenty-four families. The workers usually brought their wash tubs with them, and carried the water for washing. No bathing facilities were provided, other than the dirty, refuse-laden streams flowing by a few of the camps. The general condition of the premises about the labor camps was anything but desirable. Not one labor camp had a slop sink; slop, therefore, was thrown anywhere. In four camps the premises were very poorly drained. Only one had covered garbage receptacles; a few had open barrels; and in many, garbage was thrown on the ground back of the shacks or over a near-by bank. Flies were as numerous as might be expected under such circumstances, and the odor of decaying garbage and improperly drained canneries added the final touch to the general situation.

It was significant to find that, although the physical surroundings were so generally bad, most of the shacks were swept and in fairly clean and tidy condition. The care of the shack and the babies usually fell to the lot of the younger children, while their mothers worked in the cannery.

The *Regulations for Canneries* are being revised and separated into *Regulations for Canneries* which will apply to the conditions in the cannery proper, and *Regulations for Labor Camps* which will apply to all labor camps in the State, whether connected with canneries or other seasonal industries. Both sets of regulations will be revised in those respects in which this investigation revealed the present Regulations to be

deficient, and in the light of other states' experience in cannery and labor-camp problems.

Separate licenses will be required for canneries and for labor camps. Before a license is issued, the canner will be required to sign an application in which he states that he has complied with, and will continue to comply with, so far as possible, all the regulations affecting canneries or labor camps. The labor-camp license will state the maximum number of persons that may be accommodated in the camp.

Working Women in Industry.—The November number of *Labor and Industry,* Pennsylvania Department of Labor and Industry, contains an interesting study of Women in Industry in Pennsylvania, with a number of instructive charts.

PUBLIC HEALTH

The Physician and Public Health.—Public health is a specialty of medicine. It is one of the newer specialties, and one which is growing more rapidly than any other. It owes its growth to the support of the medical profession, and to the widespread and fundamental human desire to be well. In this age of specialization, each of us become concerned in the immediate problems of our specialty and fails to understand the occasional lack of interest, and sometimes the lack of sympathy on the part of brother physicians engaged in other specialties. The future healthy growth of the public-health movement depends upon the continued interest and support from the rank and file of the medical profession. Of such interest and support we feel assured by reason of the importance and appeal of the work.

Rural Hospitals.—The movement for the establishment of rural hospitals is on. Many methods are available. There are no legal impediments. New state laws are being enacted opening new ways. Any community may have a hospital if it really wants it. Farmers are realizing the value of hospitals, and are recognizing the handicap which the absence of hospitals and doctors places upon farming communities. Health and medical officers are increasingly taking notice of the health problem presented by the 50,000,000 people living in rural territory. Far-seeing leaders of the medical profession not only deplore the lack of doctors and hospitals in rural communities but are actually attacking the problem. With the general establishment of rural hospitals, together with the resultant aid to the return of rural doctors, the health and social phases of equality of agriculture with other industries will be nearer accomplishment.—*Farmers' Bulletin 1485,* U. S. Department of Agriculture.

Rulings by the Advisory Board of the State Department of Health.—At a recent meeting, the milk regulation permitting the issuance by the Secretary of Health of a temporary permit for other processes of pasteurization than those hitherto approved was amended. This regulation was passed after an investigation by the Department made upon the request of large milk producers in Pittsburgh who desire to install a method of electrical pasteurization. Experiments were conducted over several months, and the conclusion reached is in favor of this method. The regulation further calls for supervision by the Department's Milk Division, and the permits are issued for one year only.

In order further to protect the public against typhoid fever, the Advisory Board also passed a regulation on the subject of shellfish. This law requires all shellfish to be shipped in conformity with the laws in the state in which they are grown or packed; provides for a careful check-up on shippers, reshippers, packers and wholesalers; calls for necessary sanitary precautions in places where such products are dispensed; and outlines requirements for all handlers of shellfish.

In order further to protect the newborn child, the Advisory Board passed a regulation requiring all physicians and midwives to apply a solution of nitrate of silver in each eye of the baby as soon as practicable after birth. Formerly the Department's regulation affected midwives only.

The Department of Health, realizing the tremendous growth of automobile camps in Pennsylvania, through its Advisory Board adopted a regulation which requires necessary sanitary precautions by all persons, partnerships, corporations, and municipalities furnishing these facilities to the tourist. Under this law, the water supply, drainage, and other health factors will be properly regulated.

Syphilis the Greatest Menace to Railroads.—"Syphilis today is preëminently the greatest menace attacking the manpower of the American railroads."

This statement was made by Dr. J. R. Garner at the 19th annual meeting of the Southern States Association of Railway Surgeons.

"The railroad man is no more frequently infected with this disease than the general public, as will be shown statistically. However, it must be admitted that there is no class of men in whom the ravages of this disease play so great a part in disqualifying them for duties of their occupation as it does those engaged in that most important branch of railroad work, train service. This, because every day thousands of human lives are entrusted to their care, millions of dollars of property pass through their hands, and the lives and limbs of their coworkers are either protected or jeopardized in direct proportion as their power is unimpaired. We are compelled to admit that a disease with so far-reaching devastations and such subtle and ofttimes sudden manifestations of ravages, must be considered of great moment when encountered in this class of men."

The United States Public Health Service, in a recent publication dealing with this subject, states that the officials of a certain railroad were baffled in their search for the cause of four recent accidents. After every possible alternative cause had been considered, it was found that in each case the person responsible suffered from the type of brain syphilis known as paresis.

Dr. Garner in his address stated that many lives have been lost, much pain and suffering occasioned, and great financial loss sustained in the past on account of just such cases of mental lapses due to syphilis on the part of employees who years ago had a syphilitic infection and who in the meanwhile had risen to positions of responsibility. He stated that if it were consistent he could present reports of many cases of accidents that have been traced to a possible syphilitic infection as at least a contributing cause; that records of cases could be shown where men with an impending catastrophe due to syphilis have been apprehended in time to avert it by keeping the patient under proper medical care. The paper closes with this statement, which is in the nature of both a challenge and appeal to those accountable for the physical well-being of railroad employees and in turn the patrons of railroad systems throughout the country:

"Because of its great importance and because the matter has not yet received anything like the attention that it deserves, this subject is presented to the railroad surgeons. We are in a position to prevent many catastrophies if we will only keep the matter before us whenever we examine an applicant for employment or when called upon to treat an injured employee..... It is firmly believed that with the coöperation of the local surgeons and company oculists, fully 45 or 50 per cent of syphilitic employees may be detected by simple inspection of eyes, gait, tremor, reflexes, etc., before the case has progressed too far."

HOSPITAL ACTIVITIES

Pennsylvania Hospitals to Make Fight for Fairer Industrial Laws.—The Philadelphia Hospital Association and the Hospital Association of Pennsylvania will ask the Legislature in 1927 more strongly than ever to correct the discrimination made against hospitals by the State Compensation Board in its ruling that a hospital may receive only $100 for service to an industrial patient, and the employer is liable for only 30 days' hospital service. Occasionally some of the insurance companies will pay for a period longer than 30 days, and more than $100, but what the hospitals wish is the passage of a bill that will assure the payment of actual cost for compensation service for the time this service is rendered.

There are two obstacles that must be surmounted before hospitals in most states can obtain cost for service to Workmen's Compensation Law patients. One is the wording of the statute which, in a majority of states, definitely places an inadequate limit to the time and money to be used in caring for a patient, and the other is the practice of so many hospitals of accepting less than even ward rates for this service.

As this article points out, hospitals that agree to care for Workmen's Compensation Law patients at less than ward rates are not dealing justly with their communities, since they deliberately incur a loss that the public is called on to make up, and in incurring this loss they may be utilizing beds that are provided by public donations for worthy individuals unable to pay cost for service. Such institutions also are unfair to those that are endeavoring to obtain cost for service for all the hospitals of the State, since their action strengthens the interests opposed to a more liberal rate for hospital service.—*Hospital Management.*

First Semester of Hospital Course Completed.—The course in hospital management given by Edgar C. Hayhow at the School of Commerce of New York University has completed the first term with seventeen students. Most of those who finished the course are superintendents or subordinate administrators of hospitals in and around New York. The course is now being repeated for the second semester, with a registration of eighteen students.

Economy Program.—Hospital administrators who are interested in stimulating the institutional personnel to greater efforts in saving food, equipment, supplies, and everything that goes into the operation of a hospital, without interfering with the character of service to the patients in any way, will be interested in a review of the "economy program" that was instituted at the Harrisburg Hospital November 15, 1925, and which in three and a half months resulted in the total saving of $9,563.55. The saving mentioned in the foregoing amount is based on the decreased expenditure during the three and a half months ending February 28, as compared with the average monthly expenditure prior to the inception of the economy program. The hospital expenditures for October amounted to $24,112.52, which was a fair average for the first seven months of the fiscal year. This rate of expenditure had been agreed upon in the budget which became effective April 1, 1925.

When the hospital economy program was decided upon at a conference of all department heads, they took the project to their employees, urging their fullest coöperation. Contact with all employees was obtained through the *House News,* a monthly mimeographed bulletin that has been used with great success in stimulating team work and encouraging loyalty. Every hospital attaché has in mind that one who turns off a radiator that is not needed saves coal in the boiler room by the shovelfull. The turning off of an electric light will definitely affect the electric or power bill. The unnecessary use of the elevator requires current that must be paid for. The office force is telling itself that the writing of an unnecessary letter is a waste of time, material, and postage. The unnecessary use of the telephone causes a strain upon the service, suggesting the possible need of additional facilities with additional costs. In the dietary department every employee is scrutinizing the food returned on plates, to find out what is uneaten and wasted. The dietitian is using his knowledge to make better selection to cater to the taste of the eater. Quantities are being regulated to the appetite dealt with. Thus, the thoughtfulness of the employees in the lower stations affects the requisitions handled by those in authority.

In the housekeeping department, the maids are vying with each other to produce excellency in results without exceeding the minimum standard in the consumption of supplies. Misplaced supplies or materials have practically ceased to clutter up spaces, and the necessity of cleaning operations has been lessened. The laundry workers are using supplies for "efficiency" instead of for "suds," and are shutting off the power from machines when not in use. The technicians in the laboratory are watching their glassware and other materials, and the length of life of a pipette is being increased indefinitely. Each month, *House News* has kept employees informed of the results of the program, through publication of the details of the savings obtained by each department.—*Hospital Management.*

Saving Time and Money.—A survey made by the Division of Simplified Practice, U. S. Department of Commerce, in coöperation with the American Hospital Association, showed a remarkable number of sizes and shapes in various hospital items, including 63 size variations in bed pads, 47 in pillow cases, 50 in sheets, 70 in draw sheets, 42 in bath towels, and 48 in hand towels. Many sizes and shapes of hospital equipment and supplies are being reduced 74 to 95 per cent, and simplified, effecting a great saving in time and money for the hospitals.—*Hospital Management.*

Ohio Hospitals Association.—The Ohio hospital administrators at the annual meeting of the Ohio Hospital Association at Columbus, April 6 to 8, unanimously passed a resolution authorizing its legislative committee to endeavor to obtain a passage of the law providing for the licensing of hospitals under the state director of health and the Ohio State Public Health Council. The proposed law, as introduced by A. E. Hardgrove, superintendent of the Akron City Hospital, of the licensing committee, is planned to help ethical hospitals of all sizes and types, to render better service

and to protect themselves and the hospital field generally against unethical and inefficient institutions.

One of the most interesting discussions at the hospital gathering was that by Mr. Chapman, of Mt. Sinai Hospital, Cleveland, in which he outlined plans for making the room rate cover the entire charge of service to patients. At the present time, according to Mr. Chapman, there is only one extra charge in addition to the room rate at Mt. Sinai Hospital, and that is to cover the use of the operating room. Mr. Chapman gave the following figures relative to charges and costs at Mt. Sinai: private-room rates, $8.50 to $27.50 (suite) per day; part-pay rate $5 for semiprivate rooms; $4.50 for four-bed wards; and $3.50 to nothing for open wards. Beginning with next year, Mr. Chapman expects that the room charge will cover all service costs except the board of private nurses.

Gustav W. Drach, Cincinnati architect, and president of the Neil House, read an interesting paper on a comparison of details of construction and operation of hospitals and hotels. One point he made was that frequently openings for conduits, wires, etc., offset the use of sound-proofing materials and devices by permitting the noise to come through the openings in the wall. He also pointed out that in the newer hotels the general help is not housed or fed, and that only the people in contact with the food get their meals. Under the discussion of food problems, it was stated that special orders are a big drain on the dietary budget, and frequently these special orders are not necessary, nor even ordered by the patient. In some instances it has been found that because a special nurse likes some dainty or some type of food, she believes that the patient would want it, too, and so she orders it, only to find later that the patient does not care for it. Miss Beecher asserted that the time is coming when all dietitians will have to visit patients for personal conference regarding food likes and dislikes. In discussing the status of records, an interesting point was made when it was said that a court can not subpœna a record, but can subpœna a representative of the hospital to bring a record to court. The court, he added, cannot take the record from the representative.—*Hospital Management.*

Worn Linens.—The housekeeper in a New England hospital finds that she can save a good deal of time and money by following the outlined procedure in handling bed linens. The first-class linens are used on beds in private rooms. The second-class are used in the wards, and the third class in the employee's quarters. When the first-class linens are no longer good enough to use in the private rooms, they are automatically checked into the second division. The same thing happens to the second class when those linens are no longer in condition to be used in the wards. The linen is stamped accordingly, so that it can be sorted after laundering. This is done with sheets, spreads, pillow-cases, blankets, and towels. When blankets and linen can no longer be used on beds, they are cut up and made to fit the small children's beds and cribs. After passing through all these stages of usefulness, the rags are finally used in cleaning and polishing departments.—*Modern Hospital.*

Hospital Fires.—When one reads of a fire in a hospital, a horror immediately surges within as to the frightful possibilities. The first question that naturally arises is "What was the casualty?" What could have been done to have avoided or reduced it to a minimum? During April, a fire occurred in the Penobscot General Hospital, Maine. According to the press report, the fire occurred in the daytime, and nine patients (three of whom had been operated upon the day before) were removed with difficulty. The body of one woman employee was found on the second floor, where she was overcome in an attempt to escape from her room. In this instance the casualty was not a patient, but an employee, whom one would suppose, was able to take care of herself. The question naturally arises, "Was there ample fire-escape protection?" After all is said and done, it is the wise superintendent who conducts stated fire drills, that some general knowledge will be had by employees as to what is expected of them in case of fire in the institution, and that they may learn to "stand by" when the institution is threatened by fire in adjoining property.

Collecting Past-Due Accounts.—One of the major reasons why so many small hospitals fail in the matter of collection is because they do not appreciate the value of continuity of effort. As a rule, the small hospital in the semirural community does not have any great number of names in its accounts-receivable column. Furthermore, the superintendent is, or should be, personally acquainted with all the patients. He or she should know where the patient works, his income, and whether that income is received weekly, semimonthly or monthly, and collect accordingly.—*Modern Hospital.*

Why the Nurse Needs to Study Psychology.—A great deal of criticism has been hurled at the requirement by certain state boards for registration of nurses of at least eight hours in the curriculum devoted to psychology. Maud B., nurse instructor in Nursing Education at Columbia University, summarizes as follows: "She needs psychology because she is a student making necessary adjustments to a new and strange environment; she needs an impersonal understanding of people, especially of people when ill; she needs elementary psychology as a basis for future study of mental nursing and psychiatry; and she needs psychology because she must, whatever may be the phase of nursing she chooses upon graduation, become a teacher of health and preventive medicine."

Histories Should be Completed.—Since it is a habit with interns, particularly the newer ones, to omit the minor, and sometimes the major points in patients' histories, one day a week is set aside as "History-Completion Day" by one of the middle-western hospitals. On this day every intern is required to go over all histories of his discharged patients, bring them up to date, and make them ready for filing. This setting aside of a special day for history completion develops more detailed histories.—*Modern Hospital.*

Why Hospital Property is Desirable Security for Mortgage Loans.—According to Mr. F. J. Wade, president of the Mercantile Trust Company, St. Louis, Mo., "Remembering that there is no danger of default by reason of nonpayment of general taxes on hospitals proper, that the question of renewing franchises is never brought up, and that hospitals are not subject to strikes or adjustment of rates by municipal authorities, nor do they have to contend with other ills to which business corporations are heir, it is obvious that a mortgage on an institution of this character, properly safeguarded, is a safe investment. In fact, if the records were scanned, and foreclosures on hospitals were taken as a basis for comparison between real estate and investments, the comparison would reduce the average of foreclosures to such an extent that the real-estate mortgage would, so far as stability is concerned, outrank corporate securities."

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
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Pittsburgh, Pa.

BOARD OF TRUSTEES MEETING

The regular May meeting of the Board of Trustees was held in the Society's building, 230 State Street, Harrisburg, Tuesday morning, May 11th.

After hearing and acting upon reports from the standing committees of the Board, considerable time was spent in discussing changes suggested in the tentative report by the Special Committee to rearrange the Censorial and Councilor Districts of the State. The Committee was instructed to complete its report, in time for publication in the July Journal, on the necessary amendments which must be presented to the 1926 House of Delegates.

A petition, signed by twenty-four members of the Society, in behalf of the creation of a Section on Urology was presented, and after careful consideration referred to the 1926 House of Delegates with a negative recommendation.

Through Editor Hammond, Chairman A. C. Morgan of the Committee on Public Health Legislation, presented evidence, believed to be unfavorable in character to the qualifications of one of the leading gubernatorial candidates in the May 18th Primaries, and offering suggestions for opposition to said candidacy. The Board, by unanimous vote, authorized the distribution, by the Committee on Public Health Legislation, of a letter to our members setting forth the certified facts and the suggestions regarding said candidate's past legislative record on public-health questions, and his promised affiliations if nominated and elected.

The following questions authorized by the Board at its February meeting, with answers from the Legal Counselor of the Society, were presented, ordered received and spread upon the minutes, and published in the JOURNAL.

1. Is it possible, under our laws, for a former patient to bring suit for damages against a state-aided hospital for alleged mistreatment?

2. What is the statute of limitations in a malpractice suit against a physician in Pennsylvania, and is it the same in New York?

3. Can a former patient bring suit in New York State against a Pennsylvania surgeon or hospital for alleged malpractice while an inmate of a Pennsylvania institution?

4. Is there any difference in the status of the plaintiff against a hospital or hospital surgeon if she has been a free ward patient or a paying patient?

The questions are answered in the order in which they were asked, the answers bearing the same numbers as the questions:

1. In my opinion, it is possible under the laws of the Commonwealth of Pennsylvania for a former patient to bring suit for damages against the state-aided hospital for alleged mistreatment.

This depends, however, on whether you are referring to a State Institution or one which is a corporate entity and receives money from the State for the purpose of it maintenance.

If it is a State Institution and it is necessary for the former patient to bring suit against the State, no recovery could be had, for it has been definitely settled by the Court that no suits can be brought against the Commonwealth. A recovery can be had, however, against a doctor guilty of malpractice in a State Institution or against the hospital which receives aid from the State in the way of an appropriation for maintenance or other purposes, providing the plaintiff can prove that such doctor or such hospital has been guilty of negligence in the treatment of his case.

2. The limit of time within which an action for any personal injury not resulting in death can be brought in Pennsylvania is two years. This includes a case of malpractice charged against a physician. In New York the time is three years.

Under the facts as you have set them forth to me, this would make no difference, as the laws of the place where the negligence was committed, to wit, in Pennsylvania, would govern with regard to the time within which the action must be brought.

3. A former patient of a Pennsylvania surgeon can bring suit against such surgeon in New York State for alleged malpractice, provided such former patient

can get service of the writ upon the Pennsylvania surgeon while he is in the State of New York, otherwise he cannot sue him in New York and serve him with the papers in the suit while the surgeon is in Pennsylvania.

A former patient cannot bring suit in New York State against a Pennsylvania hospital for alleged malpractice while an inmate of a Pennsylvania institution, unless such patient can persuade the officers of the Pennsylvania institution to come into New York State in order to be served with the papers in a suit brought there.

4. There is no difference in the status of the plaintiff in a suit against a hospital or hospital surgeon if she has been a free ward patient or a paying patient. The test of the matter is whether or not the hospital or the surgeon was guilty of negligence in the treatment of her case.

THE SCIENTIFIC EXHIBIT OF 1926

Completed plans for the Scientific Exhibit to be held in connection with our 1926 Session at the Bellevue-Stratford Hotel, Philadelphia, give promise of rare opportunities for postgraduate instruction. The arrangements include several "miniature clinics" conducted by experts, presenting various of the more common skin and scalp diseases, interpretations of the Schick and Dick skin-test reactions, as well as autopsy findings from fresh specimens furnished daily from hospital laboratories. There will be plenty of room and opportunity for quiet, effective interviews and discussions between those in charge of the demonstrations and interested visitors.

DALLAS

The eighty-three members of our Society, accompanied by a score or more of ladies, who traveled fifteen hundred to eighteen hundred miles to attend the 1926 session of the American Medical Association, were the recipients from the four hundred and fifty members of the Dallas County Medical Society and the people of the City of Dallas of entertainment that springs only from open hearts and the will to charm. Our welcome, whether it was expressed informally and smilingly by the individual members of the Woman's Auxiliary of the Dallas County Medical Society, or magniloquently in formal address by appointed speakers, or at extensive luncheons, was at all times characteristic of "Southern hospitality" at its best.

We were delighted with the clear, clean atmosphere and the metropolitan characteristics of the hotels, shops, and citizens of Dallas—Dallas, the city which in regulating its street traffic, controls the pedestrian as carefully as it does vehicles; Dallas, the city whose near-by country neighbors plow their furrows thirty inches deep through fertile soil, and whose citizens erect their business buildings thirty stories high of solid stone; Dallas, whose church buildings occupy city blocks, with evangelistic pastors and influential congregations; Dallas, the city which erects its splendid University Club building on the roof of a downtown ten-story glorified warehouse, and its public auditorium, seating five thousand and housing the city's Symphony Orchestra, in the State Fair Park two miles from the center of the city; Dallas, whose people won our admiration and our gratitude for evidences of their abounding hospitality—tangible and intangible.

May the American Medical Association never become so large as to deny its members the joys of an occasional session in cities alert to offer entertainment such as we enjoyed in Dallas, Texas, April 19 to 23, 1926!

THE 1926 SESSION OF THE AMERICAN MEDICAL ASSOCIATION

Our Society was represented in the House of Delegates of the American Medical Association, which convened at Dallas, Texas, on Monday, April 19, by the following duly elected delegates: J. Norman Henry, Orlando H. Petty, Arthur E. Crow, John A. Campbell, William H. Mayer, J. Newton Hunsberger, Samuel P. Mengel, and Walter F. Donaldson; and by the following duly elected alternates at large: S. J. Waterworth, and George W. Reese. The members of our delegation served faithfully in accordance with the best traditions of our Society. Dr. Henry was appointed a member of the Reference Committee on Reports of Officers, and Dr. Hunsberger of the Reference Committee on Medical Education.

In the House of Delegates, the annual discussion on the question of limitation by law of the amount of whiskey that may be prescribed by a physician brought forth the usual profuse remarks.

There was considerable discussion again this year of the advisability of the Association's maintaining a paid legislative representative at Washington, D. C.

The House approved of a resolution introduced recommending the modification of the present curriculum for the training of nurses, reducing the course for registered nurses to two years, permitting an additional year of training, and the granting of an appropriate degree for students wishing to qualify for work of a more or less supervisory character.

A commission was authorized to study and report in 1927 on the subject of contract and group practice.

Dr. Jabez M. Jackson, Kansas City, Mo., was

without opposition elected President-elect, and Washington, D. C., was chosen as the place for the seventy-eighth annual meeting of the Association.

The total registration at the Dallas session was 4,179, of which number 2,256, or fifty-four per cent of the total, registered from Texas and Oklahoma; of the other 1,923 distributed throughout the remaining forty-six constituent associations, the Medical Society of the State of Pennsylvania registered 83 members, or approximately four and one-half per cent.

THE MAY, 1926, PRIMARIES

The recent spring Primaries campaign in Pennsylvania probably brought forth more effort on the part of our members throughout the State to influence nominations for the offices to be filled than any previous political campaign occurring during the seventy-seven years of our Society's existence. When our Committee on Public Health Legislation reported certain facts regarding the certified promises given by one of the leading candidates for the nomination for governor to enemies of the existing Pennsylvania Medical Practice Act, our officers immediately, in support of the suggestion of the Committee, authorized the distribution of a letter setting forth the facts to each of our more than 7,500 members. On about the same date the medical society in the "home county" of the other leading candidate, called the attention of all the physicians (11,000) in the State, by letter, to said candidate's hospital connections and the record of his past influence given in behalf of the health interests of his county and State. The members of the Woman's Auxiliary, through the various county medical societies, were also active in calling to the attention of their members these apparent differences in the qualifications of the two leading candidates. If these open and above-board efforts resulted in influencing alone the 20,000 voters in the families of Pennsylvania's physicians, it may be conservatively stated that 15,000 votes were thus influenced to be cast for the candidate who we believed stood for good government, and the maintenance of the highest possible health standards for our State.

Three weeks before the Primaries, the secretary of each county medical society was furnished with an authentic record of the action of each member of the 1925 Legislature from his county on the bills designed to create separate examining and licensing boards for chiropractors and naturopaths, or proposals to destroy the existing law for compulsory vaccination.

That our Society is a power in the molding of Pennsylvania's health laws, and the selection of the State officials to create, protect and enforce such laws, in the light of the outcome of the recent primaries, is a fact which can no longer be successfully denied.

HOME OWNERSHIP

The complete list of Pennsylvania medical organizations owning and occupying their own homes follows:

College of Physicians of Philadelphia.
Pittsburgh Academy of Medicine.
Luzerne County Medical Society, Wilkes-Barre.
Berks County Medical Society, Reading.
Medical Society of the State of Pennsylvania, Harrisburg.
The Harrisburg Academy of Medicine.
Philadelphia County Medical Society.
Fayette County Medical Society, Uniontown.

It is interesting to note the following from the June, 1916, PENNSYLVANIA MEDICAL JOURNAL regarding "The Luzerne County Medical Society and Its New Building": "A valuable possession of the County Society, and that which probably led to the erection of its fine fireproof building, is its medical library."

Further in the same article we read the following regarding the Society's experience after making the necessary increase in its annual dues: "It is an interesting fact that the Society had more lapses for nonpayment of dues under the two-dollar charge than under five, and more under the five-dollar charge than under ten. In other words, that which we pay for we appreciate, and with the establishment of a library and reading room with many publications, the publishing of our transactions, etc., the members have felt that they are receiving a fair return for their investment, and in general there has been but little complaint of high price of dues."

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to May 17:

ALLEGHENY: *Death*—James H. Hall, Pittsburgh (Leonard Med. Coll. '06) Jan. 11, aged 45. *Resignation*—Florentine B. Jones, Carnegie; L. V. L. Brown, formerly of Pittsburgh.

Berks: *Death*—Israel Cleaver, Reading (Univ. of Penna. '63) Apr. 10, aged 84. *New Members*—James E. Landis, 528 Walnut St., Reading; Erwin D. Funk, Wyomissing.

BLAIR: *Reinstated Members*—James G. Watson, Juniata; Charles I. Robinson, 116 Walnut St., Hollidaysburg; G. D. Burket, 1108 Thirteenth Ave., Altoona.

BUTLER: *New Member*—James E. Quigley, 110 So. Main St., Butler.

CARBON: *Resignation*—Joseph J. Bellas, Newton Falls, Ohio, formerly of Lansford. *Death*—Jacob Zern, Lehighton (Univ. of Penna. '68) Mar. 20, aged 81.

CHESTER: *Resignation*—Charles K. Reineke, Pittsburgh, formerly of West Chester.

DAUPHIN: *Death*—William C. Baker, Hummelstown (Univ. of Penna. '76) aged 76.

FAYETTE: *New Member*—John B. Skurkay, Masontown.

INDIANA: *Removal*—Malcolm L. Raymond from Homer City to 122 E. Stewart Ave., Lansdowne (Del. Co.)

JUNIATA: *Deaths*—Robert M. Quig, E. Waterford (Jeff. Med. Coll. '75) Apr. 10, aged 71; John W. Deckard, Richfield (Cin. Coll. of Med. & Surg. '74) Apr. 14, aged 77.

LANCASTER: *New Member*—John H. Esbenshade, 216 E. King St., Lancaster.

LEBANON: *Removal*—John D. Boger from Richland to Lebanon; Joseph Crowley from Lebanon to 58 Euclid Ave., Haddonfield, N. J.

LUZERNE: *New Members*—J. M. Sarpolis, Glen Lyon; I. M. Stadulis, 22 Fellow St., Joseph L. McGinley, 50 So. Washington St., Wilkes-Barre; *Resignation*—George H. McConnon, Wilkes-Barre. *Removal*—Martin H. Collier from White Haven to Lakeland Sanitarium, Grenloch, N. J.

LYCOMING: *Death*—Amos W. Bennett, Williamsport (Louisville Med. Coll. '92), April 23, aged 74.

MERCER: *New Members*—Charles L. Howe, Mercer; William T. Ferris, 157 W. State St., Sharon. *Death*—John W. Elliott, Sharon (West. Res. Med. Coll. '89) Apr. 19, aged 68.

MONTOUR: *Transfer*—Sedic S. Rine, Danville, from Snyder County Society.

MONTGOMERY: *New Member*—Sherod M. Cooper, Conshohocken. *Death*—James M. Crowe, Huntingdon Valley (Univ. of Penna. '04) May 1, aged 49.

MCKEAN: *Reinstated Member*—William J. McGranor, Port Allegany.

NORTHAMPTON: *New Members*—Vincent Gallizzi, 35 N. 4th St., Easton; Julius Wollitzer, 532 E. 4th St., Bethlehem.

NORTHUMBERLAND: *Death*—Francis E. Drumheller, Sunbury (Jeff. Med. Coll. '86) Apr. 13, aged 63.

PHILADELPHIA: *New Members*—H. Hartwell Bass, 2215 Walnut St., Howard Myers, 1622 Spruce St., A. N. Boyer Drake, 1230 Howarth St., Ernest L. Noone, 350 W. Duval St., Edward S. Thorpe, Jr., 22 Simpson Road (Ardmore), Louis Cohen, 1630 Spruce St., Elizabeth D. Wilson, 2121 N. College Ave., Sylvan M. Fish, 622 Bainbridge St., Harry H. Greenberg, 535 N. 11th St., Harry K. Katz, 2337 W. Lehigh Ave., George W. Wagoner, 257 S. 21st St., Joseph E. Kaplan, 1701 N. 52d St., James J. Waygood, 111 N. 49th St., Henry V. Grahn, 5128 Chester Ave., Benjamin H. Chandlee, 4321 Frankford Ave. *Transfer*—Albert A. Finn, 5946 N. 5th St., Philadelphia, from Allegheny County Society; John R. S. Martin, Medical Arts Bldg., from Lancaster County Society. *Reinstated Member*—Louis A. Kirshner, 1922 Spruce St., Philadelphia. *Deaths*—Charles B. Penrose (Univ. of Penna. '84), Dec., 1925, aged 64; Edward G. Rhoads, Newhope, Jan. 24; Ralph W. Seiss (Univ. of Penna., '83), Feb. 2, aged 65; Charles Bauer (Jeff. Med. Coll., '84), recently, aged 83; Aaron Rivkees (Med. Chir. Coll., '13), Feb. 10, aged 47. *Resignations*—Robert A. Bradley, Philadelphia; James G. Cumming, Washngton, D. C.; Frieda E. Lippert, Hallowell, Me.; Fannie C. Haines (Woolley), Baltimore, Md.

SCHUYLKILL: *New Members*—Wilton R. Glenney, 1242 Mahantongo St., Pottsville; Guy H. Barnd, Hegins. *Transfer*—James E. McDowell, Pottsville, from Philadelphia County.

TIOGA: *New Member*—George E. Yeamans, Arnot.

WASHINGTON: *Removal*—G. Alden Perkins, from Burgettstown to Avella.

WESTMORELAND: *New Members*—John B. Laughrey, Sutersville; Charles H. Silvis, Irwin.

YORK: *New Members*—Alma A. Thorum, Hellam; George P. Ard, 139 Carlisle St., Hanover. *Death*—John B. Kain, York (Jeff. Med. Coll., '71), May 3, aged 76.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since April 17th. Figures in the first column indicate county society numbers; second column, State Society numbers.

April	19	Blair	85-92	7207-7214	$40.00
	20	Erie	118-124	7215-7221	35.00
		Jefferson	51	7222	5.00
		Beaver	83	7223	5.00
		Northampton	130-133	7224-7227	20.00
	21	Northumberland	66-67	7228-7229	10.00
		McKean	37	7230	5.00
	24	Lawrence	64	7231	5.00
	26	Cumberland	34	7232	5.00
		Montgomery	150	7233	5.00
	27	Erie	118-119	7234-7235	10.00
		Butler	56	7236	5.00
	29	Luzerne	269	7237	5.00
		Tioga	31	7238	5.00
May	1	Northampton	134	7239	5.00
		Cumberland	35	7240	5.00
		Lawrence	65	7241	5.00
		Washington	128	7242	5.00
		Beaver	84	7243	5.00
		Philadelphia	1933-1997	7244-7308	325.00
	6	Armstrong	53	7309	5.00
		Lancaster	130-132	7310-7312	15.00
	7	Bedford	14	7313	5.00
		Fayette	123-127	7314-7318	25.00
	8	York	125-126	7319-7320	10.00
		Allegheny	1239-1244, 1246-1249	7321-7330	50.00
	10	Jefferson	52	7331	5.00
	12	Schuylkill	141	7332	5.00
		Westmoreland	155	7333	5.00
	13	Erie	120-121	7334-7335	10.00
		Berks	130	7336	5.00
	14	Chester	68	7337	5.00
	16	Luzerne	270	7338	5.00
		Schuylkill	140	7339	5.00
		Philadelphia	1998-2020	7340-7362	115.00

COMMITTEE ON SCIENTIFIC WORK

THOMAS G. SIMONTON, *Chairman*
Pittsburgh, Pa.

THE PROGRAM OF THE SECTION ON EYE, EAR, NOSE, AND THROAT DISEASES

Along with the general advance and change of program, this Section will present innovations at its three sessions which the officers feel assured will meet with general approval.

The first meeting will be held Tuesday afternoon, October 12th, in the amphitheater of the Medico-Chirurgical Hospital at Eighteenth and Cherry Streets. The program will be divided into three parts of one hour each. The first hour will be devoted to a dry clinic on ear cases; the second, to nose and throat cases; and the last, to eye cases.

Wednesday, October 13th, will be "Eye Day," and we have been especially fortunate in our guest for the day—Dr. Conrad Berens, of New York, whose subject will be "The Relationship of Ophthalmology to Immunology." Two other papers will be presented on this day, following each of which a general discussion of fifteen minutes will be conducted.

Thursday, October 14th, will be devoted to otology, rhinology, and laryngology. There will be two papers of forty minutes each, and Dr. George L. Tobey, Jr., of Boston, our guest for the day, will present "The Diagnosis of Lateral-Sinus Infection," with a lantern-slide demonstration. Case reports of ten minutes each will also be a feature of the day.

COMMITTEE ON PUBLICITY

S. A. BRUMM, *Chairman*
Philadelphia, Pa.

THE SCIENTIFIC EXHIBIT AT THE PHILADELPHIA MEETING

The Committee on Scientific Exhibit is working hard this year, not only to maintain the medical traditions of Philadelphia, but particularly to make the exhibit valuable to the Pennsylvania medical public at large. It is planned that each phase of the exhibit will carry a message that is needed.

Abundance of fresh necropsy and surgical operative material is already assured through the wholehearted coöperation of pathologists of all the larger hospitals. Likewise, we are sure of some interesting materials that come into the clinical laboratory in the way of pleural fluids, spinal fluids, gastric contents, etc., etc. It is realized that the visitor is going to be a very busy man, indeed, and that it will be difficult for him to absorb everything that is offered in the way of papers, clinics, and exhibits; accordingly, the exhibits will be arranged in such a way that he who runs may read. This will largely preclude any demonstrations under the microscope, but it is hoped to make up for this by having demonstrators present who will explain the subjects on display.

Other subjects that will be presented are as follows: serological technic in syphilis, demonstration of the Schick and Dick tests, and possibly some miniature clinic in which subjects of a surface diagnostic nature may be demonstrated.

The Scientific Exhibit this year promises to be unique, both in its scope and extent.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK, *Editor*
Rydal, Pa.

DALLAS MEETING OF THE WOMAN'S AUXILIARY OF THE A. M. A.

APRIL 19 TO 23, 1926

How shall we begin to describe the most pleasant time ever spent at any meeting of the American Medical Association? Things crowd so into the mind that it is hard to assemble one's thoughts and give the cream of it, for it was all cream.

We left Pittsburgh with winter skies and winter weather, and in forty-eight hours awoke to sunshine and roses and openhearted Southern hospitality. It began upon our arrival at the depot, and never ended until we were entrain homeward. A well-organized committee was at the train to meet the visitors, and the first inquiry was "are you placed? If not, please step over to the desk and we will see that you are placed." Hotel accommodations having been arranged for in advance, we at once reported, and not being at headquarters hotel, found our way to the Adolphus and the Baker, to seek information as to registering. At the Adolphus a committee of women directed us, informing us that all registration, meetings, and exhibits were at the Fair Grounds, about five miles out. They insisted upon taking us out in autos although the trolley cars went direct to the park. The buildings there are permanent ones and consist of an Art Gallery, Music Hall, Machinery Hall, and many others built to accommodate large numbers. After registering, there being no meetings on Monday afternoon, we visited the Art Gallery and returned to the hotel to look over the program and mark the special sessions we wished to attend.

First let us mention the social affairs. We did not arrive in time to enjoy the drive to Ft. Worth on Monday afternoon, to which many went, and also missed the symphony concert on Sunday afternoon. Automobiles almost innumerable were at our command, one had only to mention going some place, when a willing driver, often the wife of a physician, was ready to take us to our destination. On Tuesday, the Woman's Club of Dallas, conjointly, gave a luncheon to the visiting women, at the Dallas Golf Club. The attendance was probably nearly five hundred. At each table was a hostess, and during

the lunch, a welcome was extended to all visitors by a local woman. Also the *Hygeia* magazine work was presented by one of the magazine staff. He spoke of the use we could make of the magazine as an educational factor to mold public opinion.

From four to six the same afternoon, Mrs. J. O. McReynolds, the mother of all Auxiliary work, gave a garden party on the lawn of her home. There was a long receiving line, representing national and state officers; but the charm of all events was the cordiality and hospitality displayed by the local committees. Not only did they introduce themselves, but they sought to make the visitors acquainted with each other, so that we met women from Texas, Nebraska, Kansas, Colorado, Georgia, Mississippi, Missouri, Alabama, and all over the West, Chicago, New York, and our own Pennsylvania. Also in the receiving line were several women from Mexico City.

On Wednesday at noon there was a barbecue lunch for all, men and women, at the Fair Park. In the evening, the men attended smokers and reunions, while the women were entertained with a fine musical program on the roof garden of the Baker Hotel. On Thursday, a Mexican lunch was given for every one, again at the Fair Park. On the evening of the same day, the President's reception was held. As there were over 4,000 registered physicians and more than 500 women registered, not including the local women, it is easy to see why two of the largest hotels had to be used simultaneously, those receiving going first to one and then to the other hotel, and yet we were not crowded at any time—for even the out-of-doors there seems more extensive and expansive than in the East.

Now about our particular work. Last year, after the Atlantic City meeting, we had a feeling of bewilderment and of many loose ends; but our first reaction from the Dallas meeting was of something accomplished. In the first place, more of the national officers were present. Being primarily a western organization, and meeting in the center of the origin of the movement was a factor; but an important feature was the untiring work of our corresponding secretary, Mrs. Allan C. Bunce, of Atlanta, Ga., who had been on the job day and night for months, turning two rooms of her home into executive offices, and with office force sending out correspondence stimulating more interest generally in the work. She had compiled and printed the first real report of national work, she wrote 5,500 letters, and sent out over 14,000 pieces of literature. Nineteen states sent in definite reports. The membership stands more than 4,000 as compared with 1,500 last year. The expenses were about $800, and for the first time enough dues were paid to cover the expenses.

At the general meeting, there were short addresses from Dr. Haggard, the retiring president, and Dr. Wendell Phillips, the incoming president. Both believe in our Auxiliary work and that working under the direction of the A. M. A. we can accomplish much that the men's organization can not. An important work accomplished was the revision of the by-laws. Thanks to our own Mrs. William Anderson of Pennsylvania, the by-laws now form a more definite basis for work, particularly in unifying the whole organization, from the county to the national.

Texas stood first in membership, with over a thousand members; Missouri next, with eight hundred; and Pennsylvania third, with 754 members. Texas and Missouri have been organized eight and four years respectively; they have a constructive program, and are obtaining results. Of the states responding to the roll call, many are working on community problems, some are now working on a program, but many are asking for work and methods of doing it.

The president, Mrs. Seale Harris, made two recommendations which were passed by the executive board and will come up for future consideration: first, that there be two classes of membership, active and associate, the active class to consist of all who pay dues and are in good standing in state and county auxiliaries, the associate class to be the wives of all members of the A. M. A., who shall automatically become members (associate) because of their husband's affiliation with the A. M. A.; second, that as soon as possible, a paid secretary be employed, part of whose duties shall be to visit the various states during the year in the interest of the work.

In the reports from the states, some points were mentioned that could be used effectively in many auxiliaries.

The nominating committee made its report, and the following officers were elected: president-elect, Mrs. J. O. McReynolds; first vice-president, Mrs. Allan C. Bunce; second vice-president, Mrs. A. E. Jonas; third vice-president, Mrs. Nichols; fourth vice-president, Mrs. H. A. Smith; treasurer, Mrs. Irwin Able; directors, Mesdames Red, Harris, Garrison, Christian, Barker, and Johnston.

The new executive board met, formulated some definite points for the program for the coming year, and appointed a committee to appear before the House of Delegates then in

session, asking for their approval of the program. We hope to publish this program, or such part as they approve, in the near future.

Much more might be said of the meetings, but only one thing that we shall note. We attended some sessions of the Section on Preventive Medicine which were exceedingly interesting and instructive. To hear discussed community problems that differ from those of our local community makes us thoughtful, for in this day of rapid transit, the migrant population may tomorrow bring to our community the menace of many other sections.

BERTHA G. JOHNSTON,
(MRS. JAMES I. JOHNSTON).

County Society Reports

CAMBRIA—MAY

The regular meeting convened at Johnstown, May 13th, in the Y. M. C. A. building, President L. W. Hornick, presiding. Inspector Fenton Hays of the internal revenue department discussed the meaning of the Harrison Narcotic Law with relation to physicians. Following this talk, Dr. Joseph Barach of Pittsburgh spoke on hypotension.

Inspector Hays gave a clear interpretation of a number of points provided in the narcotic law. Rulings under this act have changed so frequently that physicians have failed to familiarize themselves with the new provisions. Records should be carefully kept, and cases followed up. In case a physician is wrong because of some technical error, the government is always willing to help him. But in case it is proved that the error is for personal gain, no mercy is shown.

Dr. Barach stated that the frequency of hypotension in normal health is two per cent. This percentage is fairly constant in all classes of people and in different localities. Individuals with low blood pressures are of the asthenic type. They are undersized and non-athletic. The chest and nostrils are narrow, and there is frequently nasal obstruction. The respiratory apparatus is subnormal. They show muscular relaxation, poor vasomotor tone, and faint easily. They are free of heart disease.

Of the acute infections, colds, influenza, pneumonia, typhoid fever, diphtheria, and erysipelas show a hypotension. In influenza the blood pressure falls lower than in any other disease. These patients have a respiratory deficit and cannot absorb oxygen properly. The more the respiratory system is involved, the greater is the tendency to hypotension.

In the chronic diseases, hypotension occurs in pulmonary tuberculosis, blood disorders, and hypothyroidism. In hypothyroidism the individual is over weight. Such patients look large, but they have small ankles and a small frame. They have a decreased oxygenation, not due to lack of oxygen, but because they do not utilize it properly. Likewise, in the blood disorders oxygenation is carried on poorly. Hypotension in these cases is not coincident with a diseased respiratory apparatus, but with an inability to use oxygen.

Individuals with hypotension live longer than with hypertension. These people are not active, and have a tendency to conserve their energy. The prognosis in hypotension is generally good.

In conclusion, Dr. Barach said that "an addition to the factors which influence blood pressure should be added; namely, respiratory effort and oxygenation."

W. B. TEMPLIN, M.D., Reporter.

ERIE—APRIL-MAY

At the April 6th meeting at the Public Library at Erie, Dr. Merle Russell read a paper on "Bronchoscopy," with a report of cases.

The May meeting was postponed until the 7th in order to have the privilege of hearing Dr. Elliott P. Joslin, of Boston, Mass., on "Diabetes."

Dr. Joslin spoke of the increasing mildness of the disease as the patient had it longer. The first year is the danger zone, after which, if the patient is properly treated, there is an excellent chance for long life—also for development of character. If he coöperates with his physician, he usually outlives his immediate circle.

There are no characteristic autopsy findings in the pancreas of diabetics. Inspection of the pancreas throws no light on the disease. In two patients weighing two hundred pounds or more, one pancreas weighed one ounce, and the other one-half pound. At some autopsies, hyaline degeneration of the islands of Langerhans is apparent; at others, sclerosis is found, also other changes.

There is always some regeneration of the islands, and more regeneration in the patients who have taken insulin. This explains why patients do better after the first year. There are about a million of these islands in the pancreas.

The treatment consists of diet, insulin, and exercise, and the exercise is as important as the insulin. Exercise reduces the blood sugar normally, and this physiologic fact should be used to good advantage in the treatment of diabetes.

The physician should guard against all infections, such as infected teeth and tonsils, also the pancreatitis accompanying gall-bladder infections. The feet and legs should be routinely treated to prevent gangrene. Thyroid disease is not very common in diabetics, but the thyroid should be removed if necessary. The increased metabolism acts the same as overeating.

Dr. Joslin warned against the common practice of taking the blood sugar in the early morning from a fasting patient. It gives an erroneous idea of the patient's condition. Late in the morning and late in the afternoon, he may have a much lower blood sugar. The highest percentage of blood sugar is present in the morning just after breakfast. A diabetic should never have more than one fifth of his carbohydrate for breakfast; the other four fifths may be divided between the noon meal and the evening meal. The physician should be on the lookout for an insulin reaction late in the mornings and late in the afternoons. He should never be permitted to have bread, even after years of doing well; it is likely to precipitate a much worse state.

ANNA M. SCHRADE, M.D., Reporter.

LEBANON—APRIL

The meeting of April 13th was held at the Good Samaritan Hospital, Lebanon, Pa. Dr. Orlando H. Petty, of Philadelphia, described and demonstrated the proper way to make examinations of apparently healthy

patients, laying particular stress on the need of making a complete and thorough examination. He used the form issued by the State Society, and urged his hearers to use a method in examining these patients and stick to it so that they would be sure to cover each region. He advised making these examinations by appointment, at times when the physician is not busy, thus giving himself more time to do the examination, and at the same time filling in his vacant time. The patient should be advised of the findings, both orally and later by a written report. Any advice given the patient should also be both verbal and written, so he may have the feeling that he is receiving something tangible for his money.

Committees were appointed for the tricounty meeting of the Lancaster, Dauphin, and Lebanon County Societies which will be held at Lebanon this year, at the Lebanon Country Club, in June.

JOHN D. BOGER, M.D., Reporter.

LUZERNE—APRIL-MAY

The meeting of April 21st was held in the Society's building, President Mayock presiding. Dr. Joseph McGinley of Wilkes-Barre was elected to membership. A resolution was passed favoring the appointment by the Wilkes-Barre City Council of a full-time milk inspector.

Mr. W. W. White, Assistant Chief, Division of Milk Control of the State Department of Health, read a paper on "Milk Control." Dr. W. F. Davison of Kingston read a paper on "Community Milk Supply."

The meeting of May 5th was held in the Society Building, with President Mayock in the chair. Dr. Ignatius M. Stadulis of Plymouth was elected to membership. Dr. E. C. Bahnmiller read a paper prepared by Dr. Nathaniel Ross, Chief Medical Inspector of the Public Schools, on "Medical Inspection in the Public Schools." Dr. F. T. O'Donnell followed with "The Object and Method of Medical Inspection."

Dr. Ross: School medical examinations started in 1833 and 1837, when school authorities in France were charged by royal ordinance to provide for the sanitary conditions of school premises and to supervise the health of school children. In Germany, the first genuine system of medical inspection was inaugurated in 1889 at Frankfort-on-the-Main. In Great Britain it dates from 1907. England was the first country to employ school nurses, the first appointment being made in London in 1887. Pennsylvania, in 1911, by legislation made medical inspection of school children mandatory, and this is now being very thoroughly carried out in the various school districts of the State. The first medical inspector in Wilkes-Barre was appointed in June, 1910. In 1915 the city was divided into five districts, each district having its own medical inspector. In 1917, four school nurses were appointed. Today we have five medical inspectors, two dentists, six nurses, and two oral hygienists. In the school term of 1924-25, 85 per cent of corrections of defects were obtained.

Dr. O'Donnell: It is exceptional to find a child in the first to fifth grades with a perfect set of teeth and healthy tonsils. After a tonsillectomy, I have observed the uvula to be missing in, I dare say, one out of ten cases. Among the defects found in 1924-25, 100 per cent correction was obtained in those attributable to the teeth, nervous diseases, and the lungs. There were 14,296 pupils examined, and 7,233 treated, with a correction of 89 per cent of the defects found, the highest record in the State. With more school nurses, our percentage of correction of defects would be higher.

Dr. Long: The first medical inspection in Wilkes-Barre was done by the teachers in 1907-1908. They brought in reports which were submitted to the medical men of the School Board. In 1910 a bill was passed providing for medical inspection. In case of any defects found, notice was given and attempts made (mostly unsuccessful) to have corrections secured. There was no visiting at the houses by the nurses at that time.

Dr. Meyers: As I look back, I think the medical profession was not in harmony and coöperative in the matter of reports sent to the homes. The practitioner at first did not know what was wanted. Today the great factor in the follow-up is the school nurse. Many children have defects who should never start school. We have baby-welfare stations, but there is a period between two years and school age when there is no inspection. I feel the time to inspect children is when they are released from the bottle and cradle, and during the years when they are growing they should be followed up and defects corrected if necessary. When the child reaches the school age he should be in fit shape to go to school. There is no factor greater than the medical profession itself. If the doctors would agitate this, the community would be ready to establish stations where the children could be observed.

Dr. Judge: Before many of the children are examined it is March or April of the first school year. Vaccination, for instance, means loss of school time, and should be done at the beginning of the school year. In 1910 I was Superintendent of Schools of Pittston City, and we had medical inspection for the first time. The board hired a doctor. To the discredit of the "reform board" which came in two years later, they discharged the doctor. During that period we had no inspection, and not until the "reform board" was put out and the respectable element gained control, did we restore medical inspection.

Dr. Jacobosky: I wonder whether many school days are lost by children in a city of this size, and whether many of the lost hours are not spent in attendance at moving picture shows.

Dr. Bixby: Our children in this country are allowed candy, etc., and the teeth break down and soften, and they have cavities at school age. The doctors can help greatly in the prevention of teeth defects by keeping candy from the child, by using whole wheat, whole rice, etc., to feed the necessary salts. Investigation at Yale showed that athletes almost always had good teeth. Presumably they had had good building up of the body, and this was shown in the teeth.

Dr. Clark: There is one large class of school children who have no medical attention, and those are the ones attending the parochial schools. There is entire lack of coöperation between those schools and the Health Department. In contagious diseases there is no report from these schools and no follow-up. I should say that in the recent epidemic of measles, about one fourth of the reported cases were discovered by the public-school nurses in their search for explanation of absence of the child.

Dr. Davison: We found that one examiner for 4,000 pupils did a very nice piece of work. There has been a misunderstanding about the fourth-class districts. We have had much trouble to get coöperation in that district, so we have put a nurse in there. She looks at the teeth and tonsils. If she thinks she sees anything wrong in that line, we hold a clinic, and the examiner

sends the child to the family physician, and no one diagnoses the case but the family physician.

Dr. O'Donnell: We are working now on children of the preschool age, and instead of calling it the baby-welfare clinic, we call it the child-welfare clinic. This work is increasing. In regard to parochial schools, the State has examined some of these schools and made arrangements to check up on the vaccination scars every second year. One experience I had does not bear out the statement of laxity. In one school of 800 there were almost 200 not vaccinated. All of these were sent out and all but ten revaccinated.

LEWIS T. BUCKMAN, M.D., Reporter.

PHILADELPHIA

March 24, 1926

The president, Dr. Moses Behrend, in the chair.

Dr. John A. Kolmer, Dr. J. F. Schamberg, and Dr. Malcolm J. Harkins (by invitation): Concerning Gye's Hypothesis of the Etiology of Malignant Tumors.—A large number of different organisms have been brought forward as the alleged cause of malignant tumors, many of which have been discarded. The more recent work of Gye and Barnard, in England, was published in the London *Lancet*. The writers of this paper regret that they cannot corroborate the correctness of Gye's experiments, although his work is of the utmost importance, and more is yet to be done. His theory commands further attention, because, of all theories yet advanced, the most striking are those which claim that the cells have been so changed (possibly by some agent breaking down their resistance) that the riotous overgrowth of tumor cells has resulted; as, for example, prolonged irritation by tar. The toxins from bacteria may act as an irritant, and the fact that malignancy so often arises on the site of a chronic syphilitic lesion of the tongue or an old tubercle bears out this hypothesis. The same agent may produce either a sarcoma or carcinoma, depending on the type of cell upon which it acts.

In Berlin, Schumaker has tried, by using the Victoria blue stain to demonstrate the "parasite of cancer" —a large, bacillary type of organism found at the edge of the tumor. These claims must be investigated.

Dr. Blair Bell, of Liverpool, has treated a large series of patients with malignant disease with his preparation of colloidal lead, administered intravenously in dosage little short of lethal, with favorable results. Of 200 "hopeless" cases, he reports 19 cured and 12 improved. His hypothesis suggests the possibility of developing in chemotherapy something which will selectively localize in the cancer cell to cause its destruction.

Dr. George E. Pfahler: Present Value of Physical Agents in Treatment of Malignant Diseases.—The death rate from cancer in Pennsylvania in 1906 was 58.9 per 100,000, while in 1923 it was 90.8, an increase of 54 per cent in proportion to the population; hence every possible means of cure must be used. The earlier this disease is treated, the greater the chance for cure, and skill and thoroughness are needed. Patients and friends must be educated to apply for complete examination at the earliest signs of cancer, and they must know these signs. A bureau of seventy-five speakers has been organized to speak to groups or clubs on this subject. In treatment, surgery is invaluable, x-rays, radium, and electrocoagulation indispensable, and both may be employed together with benefit. Cancer of the skin can be prevented by thorough care of warts, crusts, moles, and fissures, thus removing chronic irritation from the skin. A pigmented mole destroyed by electrocoagulation never recurs. All skin factors can be cured if treated early and skillfully. Cancer of the lip is curable while local, and 25 per cent of cancers of the tongue can be cured. If treated while in the stage of leukoplakia or ulceration, the percentage is higher. Cancer of the cheek and gums responds well to treatment if there is no bone or lymph involvement, and cancer of the tonsils and pharynx yields to radium. Electrocoagulation and radiation are not curative in malignancy of the chest or abdomen: surgery is needed. Seventy per cent of breast cancers surgically treated before there is axillary involvement are cured; 20 per cent of those with axillary involvement are cured, and these last are doubled if radiated after operation. Radiation may make an inoperable breast cancer operable. Radium in cancer of the cervix gives 48.7 per cent of five-year cures—equal in value to hysterectomy. Radium and x-rays are helpful in more advanced cases of carcinoma of the uterus.

In discussion, Dr. Edward B. Krumbhaar said that Gye's observations, if true, are of such tremendous importance that thorough investigation is essential. He regrets that workers here have so far been unable to confirm his work, but they should be inspired to further labors by the discrepancies obtained.

Dr. Charles F. Nassau, referring to Dr. Pfahler's enthusiastic optimism, thinks we should be very careful in claiming cures for any method of cancer treatment. In the majority of instances of cancer, surgery still offers the greatest hope of cure, though the assistance of the radiologist may be employed. The vital thing is that treatment be given early. Radiation is advisable pre- and postoperatively, and in inoperable cases. He believes there have been more spinal metastases since the widespread use of radiation. He has seen recurrences of cancer of the lip that had been treated by electrocoagulation and radium, and thinks complete excision of the growth and of the lymphatics involved, followed by x-radiation, the best method of dealing with this disease.

Dr. Schamberg said that Gye's work excited general interest because the work was under the ægis of the Medical Research Council, and the paper was published in the conservative *Lancet,* which, at the same time, published a statement that this paper marked a step in the history of medicine.

Every case of cancer can be cured if diagnosed early enough, but diagnosis in some localities is easier than in others. It is the best scientific opinion that results are obtainable by radiation and surgery which are impossible by surgery alone. Proper radiation may produce remarkable results. The only case of cancer of the tongue which Dr. Schamberg knows to be living is one in which the growth was electrodesiccated and the neck radiated. Pigmented moles rarely develop malignant change if thoroughly destroyed.

Dr. Faught believes that it is not all up to the laboratory, but that much can be done from the clinical standpoint for prophylaxis. It is difficult to raise public interest against the quacks. Health examinations are important in the cancer fight.

April 14, 1926

PROGRAM BY BRANCH SOCIETIES

North Branch, Dr. E. Steinfield: Scarlatinoid Syndrome Due to Streptococcus Viridans.—During the late winter and spring an infection has been prevalent with general toxic symptoms similar to scarlet fever,

due to a local invasion of the streptococcus viridans. Several members of one family have been attacked, regardless of age, without the predilection for the young which is characteristic of true scarlet fever. The onset is sudden, with high temperature and a headache resembling meningitis in severity. The throat is usually markedly injected. Pulmonary signs are absent. An exanthematous eruption appears on the chest in a day or so, punctate, with coarse acneform lesions. After a few days, the urine is diminished or suppressed, and becomes smoky, hemorrhagic, with marked albumin content, and with the red blood cells, casts, and leukocytes typical of a glomerular nephritis. The eruption, the nephritis, or the throat symptoms may predominate, with a variance even among members of the same household. The affection may be complicated by peritonsillar or retropharyngeal abscess, otitis media, erysipelas, tonsillitis, lymphadenitis, or nephritis. Exudates from the ear or cultures from the lymph nodes show streptococcus viridans. The differential diagnosis in atypical cases is difficult. As to treatment, the scarlatinal antitoxin gives good results.

Southeast Branch, Dr. Henry B. Shmookler: The Use of Raw Pancreas in the Treatment of Diabetes.—This is a preliminary report based on fifteen cases observed in the wards of Mt. Sinai Hospital. The first treatment of the diabetic with raw pancreas was given in 1911, and theories were advanced that the pancreatic hormone was destroyed by the gastric juice. The war and the discovery of insulin overshadowed work with the raw gland. In 1925, a Scotch physician again mentioned the use of fresh raw pancreas. The writer can only cite results obtained so far in cases treated at Mt. Sinai Hospital. Some of the cases were complicated by a severe infection or renal disease. These were adults, and mostly old. The gland must be pancreas (the importance of this being occasionally overlooked at a busy slaughterhouse, and substitution made), and it must be fresh and raw. It can best be administered by chopping the gland by hand, and mixing it with olives, celery, chopped meat, etc., so that, unless told about it, the patient will not realize what he is eating. The urine is cleared of sugar more quickly than the blood, but the patients are restored to health. As a rule, about 2 ounces of raw pancreas is administered three times a day. A considerable number of patients have received this treatment. The blood sugar has not been reduced much. Some have gained in weight. The treatment may be continued indefinitely, and the patient may be on a liberal diet.

Northeast Branch, Dr. George W. Dietz: Clinical Aspects of Chronic Valvular Heart Diseases.—Murmurs count for little in diagnosis, and may be confused; e.g., a double aortic murmur may be caused by a malignant endocarditis above the aortic valve following a rheumatic infection. Symptoms give little clue as to the valvular disturbancce. Arteriosclerosis (luetic), streptococci, or pneumococci may produce scars, atheroma, fibrosis, or a stretching of the heart muscle which may be confusing. Damage of the mitral valve may cause a systolic murmur at the apex, a thrill, and possibly a presystolic crescendo murmur. In mitral stenosis, there is enlargement of the left auricle, and an apical diastolic murmur, with an accentuation of the second pulmonic sound. An organic mitral regurgitation is usually found with a stenosis. A sharp first sound at the apex, with a thrill, in an apparently normal heart is an indication of mitral stenosis, the murmur being brought out by exercise. A history of rheumatism is usually associated with mitral or aortic stenosis unless, as in half of the aortic cases, the murmur is of the Austin Flint variety.

A triscuspid lesion is nearly impossible to diagnose, except by the presence of a large pulsating liver in a case with cardiac failure. Aortic regurgitation may occur without stenosis, the murmur then being heard down the sternum, and a water-hammer pulse being present. Aortic incompetence may be detected by Duroziez's sign, with tinnitus, vertigo, and increased systolic pressure in femoral and brachial arteries. It is with aortic regurgitation that the cor bovinum develops, and an increased pulsation of the aortic arch, possibly associated with syphilitic aortitis, is apt to be present. Lesions of the pulmonic valve do not give rise to murmurs transmitted up the cervical vessels. The murmur of pulmonic regurgitation is heard early in diastole down the left sternum. Pulmonic stenosis is usually congenital, and gives the largest right heart. It can be detected by the electrocardiogram. In cases of combined lesions, one may so neutralize or overshadow the other that the diagnosis is missed; hence it is safer to limit the diagnosis, in order to eliminate the possibility of mortifying postmortem discoveries.

Kensington Branch, Dr. T. R. Currie: Retropharyngeal Abscess.—This is a not infrequent condition in infants and young children, and may assume the acute or chronic form, the latter usually being due to Pott's disease. Symptoms are malaise, fever, anorexia, fretting, painful swallowing, dyspnea, quacking voice, cervical rigidity, and adenitis. Treatment consists of incision and drainage. Eleven cases seen since 1924 were detailed. The patients ranged in age from five to eighteen months, and all abscesses occurred on the left side.

West Branch, Dr. Francis Ashley Faught: Focal Infection in its Relation to Medical Problems; its Uses and Abuses.—The discovery of the relation of focal infection to general disease has been a recent great advance, particularly in acute and chronic arthritis, acute endocarditis, chronic myocarditis, acute thyroidism, nephritis, retinitis, cholecystitis, gastric and duodenal ulcer, pancreatitis, etc. A knowledge of focal infection simplifies methods of treatment, and the doubtful tooth or chronic tonsil or sinus must be sacrificed. The value of removal of foci lies in the completeness of their removal, and periodic health examinations furnish the best method of search. Cautious prognoses should be made, and a vaccine may greatly aid postoperative improvement.

South Branch, Dr. H. Leon Jameson: Renal-Function Tests in General Practice.—Albumin and casts may be present in the urine without an impairment of function or a renal lesion, and a chronic nephritis may present a urine without albumin or casts, yet the nitrogenous output may be low. It is in these chronic cases that the functional estimation is of most value. Some of the tests, as the phenolsulphonephthalein test, may be too involved for use in general practice, and estimations of blood-retained nitrogen or nitrogen in the urine are also impracticable.

Mosenthal's nephritic diet test is very simple, and detects early renal imvolvement. Two-hour specimens are taken through the day, and a single specimen from 8 p. m. to 8 a. m., and examined for specific gravity, nitrogen, salt, and volume. Decided variations of specific gravity are found normally, and the night urine should be less than 750 c.c., with a specific gravity above 1.020. Change in these two things strongly suggests disease.

The concentration diuresis test is easy to carry out.

The patient is given a meal at 6 p. m., then no food or water, and the bladder emptied at 6 a. m. After a continuance of the fast and thirst for three hours longer, another sample is taken. Then the patient drinks two and a half liters of water in one and a half hours, and all urine is collected. Patients with good kidneys but poor heart muscle will exhibit a limited ability to eliminate water. In nephritis, there is an early impairment of the ability to excrete urea. An estimation of the urea concentration, using the urinometer and hypobromite method is very simple. A twelve-hour fast must precede the test. A reading of less than 0.02 is poor. While renal-function tests should be used by the general practitioner more frequently for early diagnosis, they should not replace a thorough clinical examination.

MARY A. HIPPLE, M.D., Reporter.

CORRESPONDENCE

To the Editor of the ATLANTIC MEDICAL JOURNAL.

DEAR MR. EDITOR: In the review of *A Textbook of Medical Diagnosis* by Anders and Boston, which appeared in the April issue of the ATLANTIC MEDICAL JOURNAL, both misleading and inaccurate statements appear. The reviewer states that if one reads the article upon "the differential diagnosis of advanced pulmonary tuberculosis, one fails to find mentioned such important and commonly mistaken conditions as malignant disease of the lung or pleura, foreign bodies in the air passages, lung abscess, fibrosis due to various causes, pulmonary thrombosis, or embolism and visceral syphilis." While not mentioned under differential diagnosis of advanced tuberculosis, in which the diagnosis is rarely in doubt, all of the conditions enumerated by the reviewer receive full consideration elsewhere throughout the work. For example, fibroid induration in its various forms and its relationship to tuberculosis is, we feel, fairly well presented on pages 121-3. Again, the differential diagnosis between pulmonary syphilis and malignancy and tuberculosis of the lungs is given on page 892.

From the statement that "in the all too brief article upon 'The X-ray Evidence of Diseases of the Bronchi, Lungs, Pleura, and Diaphragm' by that expert roentgenologist, G. E. Pfahler, no mention is made of the use of this agency in the recognition of foreign bodies in the air passages," etc., the reader will naturally obtain an erroneous impression. If the critic had read pages 116-17-18-19 and 20, more particularly pages 117 and 119, he would have found reference to the use of the x-ray in the recognition and differentiation of foreign bodies in the air passages. Reference to the subject of the x-ray in many other thoracic conditions not mentioned in Dr. Pfahler's article, which is merely introductory to the subject, is to be found in the section on "Disease of the Bronchi, Lungs and Pleura." To mention only a few of these: the Diaphragm (pp. 78 and 79), Bronchiectasis (p. 106), Bronchial Stenosis (p. 108), Pulmonary Gangrene (p. 127), Abscess of the Lung (p. 130), Pulmonary Emphysema (p. 136), Pleurisy (p. 155), Thickening of the Pleura (p. 165), Empyema (p. 168), Pneumothorax (pp. 173 and 175).

The section on diseases of the liver, stomach, and intestines will be found to present the x-ray evidence and its diagnostic importance in detail in connection with numerous affections of these organs; in short, in all in which it has been found to be of any real value. It is our opinion that this aid to diagnosis should be principally considered in connection with the individual affections in the recognition of which it plays a more or less important rôle. It was felt that this was the place for the "discussion of the common differential diagnostic problems that are encountered daily." It should be further stated that to "Indicanuria" about one and a quarter pages are devoted instead of "two pages," as stated by the reviewer.

The importance of estimating and considering relative values in medicine in writing a book such as ours is granted, but it is not possible with any reviewer who does not carefully read a work of the sort, as shown by the above facts, to offer an authoritative opinion on this aspect of the work. THE AUTHORS.

This communication was referred to the reviewer, who replied as follows:

"After reading the communication, I feel that everything that was written in the review was justified and proper. It seems to be a matter of point of view. The authors state in the enclosed communication that 'under differential diagnosis of advanced tuberculosis, *in which the diagnosis is rarely in doubt,*' etc. This is an attitude of mind that does not add to the clarity of an important subject, and is disproved daily in the practice of every clinician of experience, and in the conduct of every sanitarium that does careful scientific work. To state, as an excuse for failing to mention important matters connected with a differential diagnosis, that the answer can be found in various articles throughout the volume, is not, in my opinion, the best way of being helpful to the reader of the article. There is much good in the volume but it is not what it is advertised to be, 'A complete guide for diagnosis,' and there has been too much haste in its compilation."—[EDITOR].

Philadelphia, Pa., May 22, 1926.

Editor, the ATLANTIC MEDICAL JOURNAL,
Harrisburg, Pa.

MY DEAR EDITOR:

In the interest of the accuracy which characterizes your splendid journal, will you kindly correct a copied inaccurate statement in the May number of the JOURNAL, that the Committee on Medicine and Allied Sciences of the Sesqui-Centennial Exhibition has received an appropriation of $250,000. The amount appropriated by the Board of Directors of the Sesqui-Centennial was $15,000, and about 10,000 square feet of exhibition space, granted free, instead of the usual charge of $5 per square foot.

Thanking you for your customary courtesy,

Very sincerely yours,
WILMER KRUSEN, Chairman.

The *P. A. R. D. Bulletin* considers that a good druggist will place the conduct of his store on a high plane; will purchase only the highest-grade quality drugs and merchandise; will exercise the utmost care in dispensing medicines so that his patron may regain his health and earning power; will advise the medical men in his community and elsewhere that he is thoroughly qualified to fill their prescriptions and that his drug store is well stocked to make immediate delivery on demand; will invite their orders for special formulas of their own; will seek out members of the dental profession and solicit their orders for special formula work; and will dispense narcotics and liquor only on a physician's prescription.

THE

MEDICAL SOCIETY OF DELAWARE

A TECHNIC FOR PERINEORRHAPHY

C. M. WATSON, M.D.

PITTSBURGH, PA.

In the June, 1911, number of *Surgery, Gynecology and Obstetrics* I presented a paper, "The Anatomic Repair of the Female Pelvic Floor." Since then, our interest has continued; and partly through our own experience, but largely from the observation of the work of others, we have from time to time so modified the original procedure as to justify the following description.

A tenaculum or Allis forceps is placed on each side of the torn or relaxed vaginal outlet just posterior to the opening of the Bartholinian duct, catching the tissues at a point sufficiently

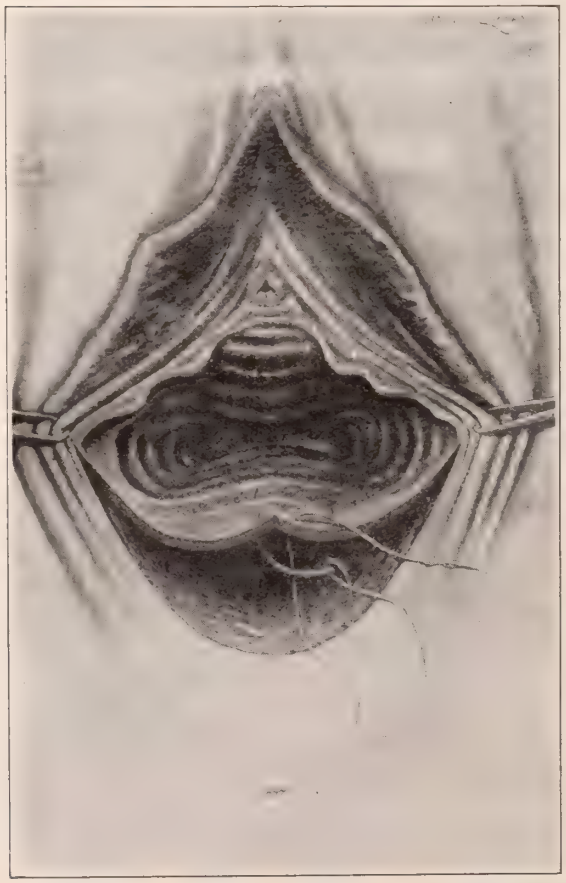


Fig. 1. Perineum and posterior vaginal wall ready for suture.

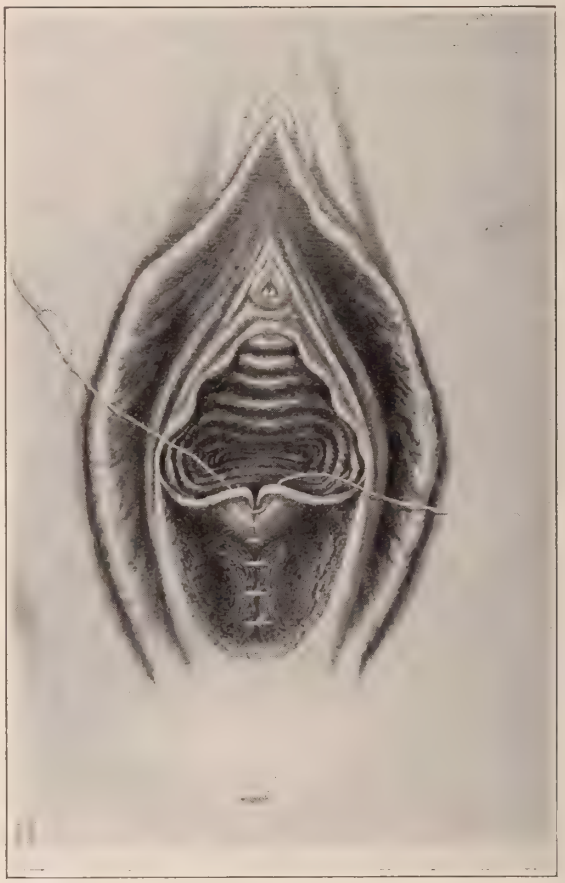


Fig. 2. Levator ani muscles united by kangaroo tendon or chromic catgut. Posterior vaginal wall in process of reconstruction.

removed from it to insure against injury in the subsequent suture. With gentle traction upon these forceps in the hands of an assistant, and fixation of the superficial structures of the perineum by the fingers of the operator's left hand, an incision is made from one forceps to the other, keeping just outside of the remains of the hymen and any scar tissue which may be present. The vaginal flap thus begun is now grasped by Allis or Ochsner forceps and separated by sharp dissection from the remains of the perineal body. As we approach the bowel, the knife is usually laid aside, and further separation of the rectum and vaginal flap accomplished by gauze dissection.

The rectum is thus separated from the posterior surface of the rectovaginal fascia to a point well above the apex of the rectocele, or as high as the degree of vaginal relaxation may render advisable. This separation must be made with extreme caution, particularly at its beginning, to guard against any injury to the rectum. In pushing the bowel off with gauze, pressure should be made on the posterior surface of the fascia in front and away from the rectal wall. Care here in keeping the line of cleavage close to the white surface of the fascia will insure against injury to the bowel and troublesome hemorrhage from the vessels in its wall.

The rectum having been separated from the vaginal wall to the desired extent, a pair of Allis forceps, from within the vagina grasps its wall in midline at a point selected to mark the upper limit of its excision. The location of this point varies with the degree of relaxation and the height of the rectocele (figures 1 and 6). These forceps, together with those on either side of the vaginal entrance, when tracted in opposite directions, outline a triangular area of vaginal mucous membrane and underlying

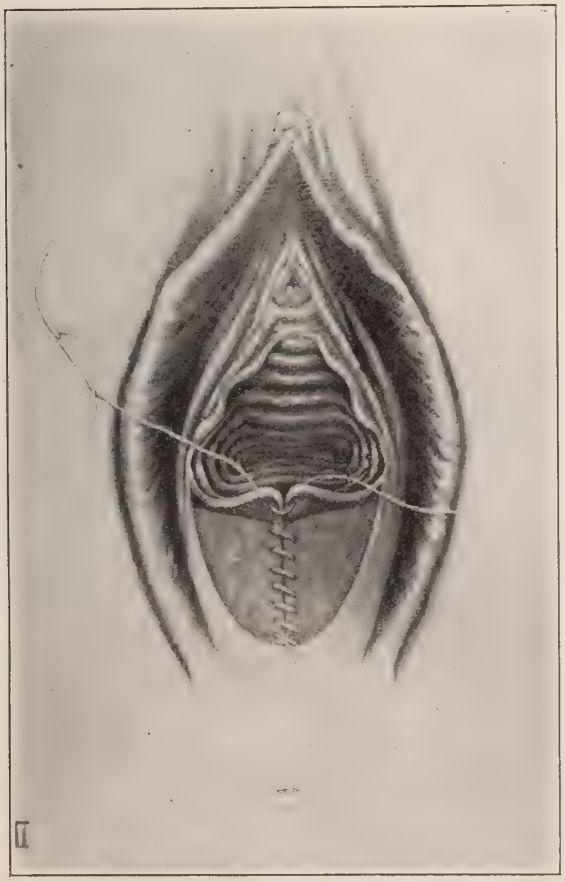


Fig. 3. Continuous suture of chromic catgut, restoring triangular ligament and superficial muscles of perineum.

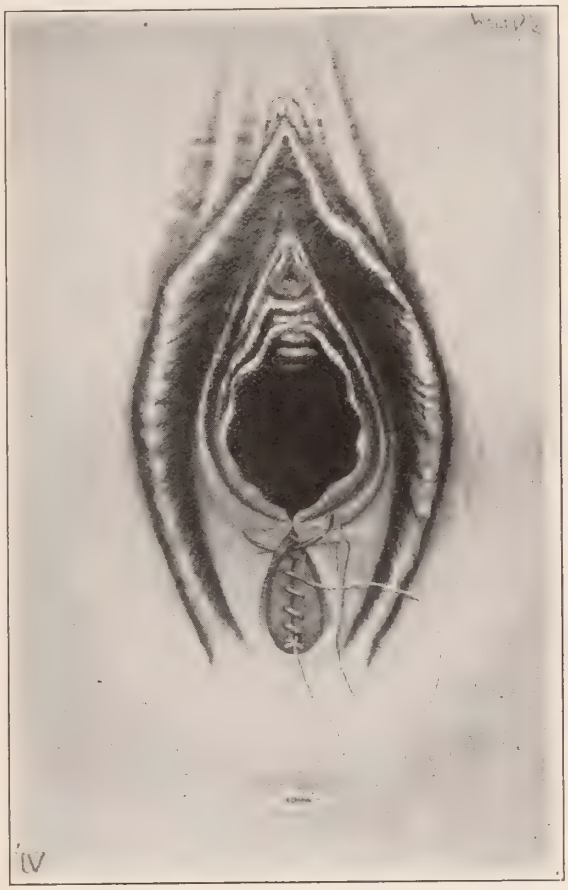


Fig. 4. Skin of perineum being closed by subcuticular stitch.

fascia, which may now be rapidly removed with scissors.

The tissues removed however, should not represent a true triangle, but the line of section from the forceps at the entrance to that marking the apex within the vagina should be more or less curved, with its concavity toward the lateral wall; otherwise there may result an undue narrowing of the canal above the introitus. The degree of curvature of these lines, and consequently the extent of tissue removed laterally should depend upon the amount of relaxation of the posterior vaginal wall.

We now have exposure of the region of the deep and superficial muscles of the perineum, their associated fascia, and laterally within the vagina the lines of its resected mucous membrane with the strong fascial layer beneath. In the depths of the wound is seen the anterior rectal wall ballooning forward, the result of its lost support (figures 1 and 6).

The posterior vaginal wall, with its fascia, is now restored from within outward by interrupted sutures of chronic catgut, introduced from and tied on the vaginal side (figure 2). In their introduction, an attempt is made to



Fig. 5. Perineorrhaphy completed.

ridge the suture line, procuring a broad contact between the apposing fascial layers, inviting a firm, unyielding union. Each suture is left long, and held by a clamp until the succeeding one has been placed. On reaching a point just within the introitus, the stitch last introduced is left long, caught by forceps, and laid aside until the deeper portion of the perineum proper has been sutured.

With the index finger of the left hand placed deeply in the lateral recess of the perineal wound, the levator ani muscle on the patient's left side is palpated, at the same time pushing the rectum aside, as with a Mayo needle threaded with medium-size kangaroo tendon, a good bite from without inward is taken in the muscle and its enveloping fascia. The suture crosses deep within the wound, and secures from within outward a corresponding bite in the muscle of the opposite side. From one to three sutures are required for the levators and their fascia, and are left untied until all have been placed. Frequently one suture is passed through both muscles twice, with the proper interval, thus securing two stitches with but one knot. In introducing the suture nearest the anus it is well to take a bite in the fascia about its sphincter, as, when tied, the anal orifice is brought closer to the pubic arch.

The levator ani sutures having been passed, the wound is inspected for possible bleeding, and when dry they are tied, bringing the muscles into close apposition (figure 2). The next step is the stitching, with a continuous suture of chromic catgut, of the triangular ligament and the superficial perineal muscles (figure 3). The end of this suture is left long in the lower angle of the wound to tie to the final subcuticular stitch at its termination.

We then complete the closure of the posterior vaginal wall to the introitus. The remaining superficial perineal wound may be closed by a continuous, interrupted, or as we usually prefer, a subcuticular stitch. This introduced in the manner illustrated in figure 4 secures a broad approximation of denuded surfaces, and further reinforces the perineal body. With the subcuticular closure the patient is more comfortable during the postoperative period, and is more easily cared for, while the usual cosmetic result leaves nothing to be desired (figure 5).

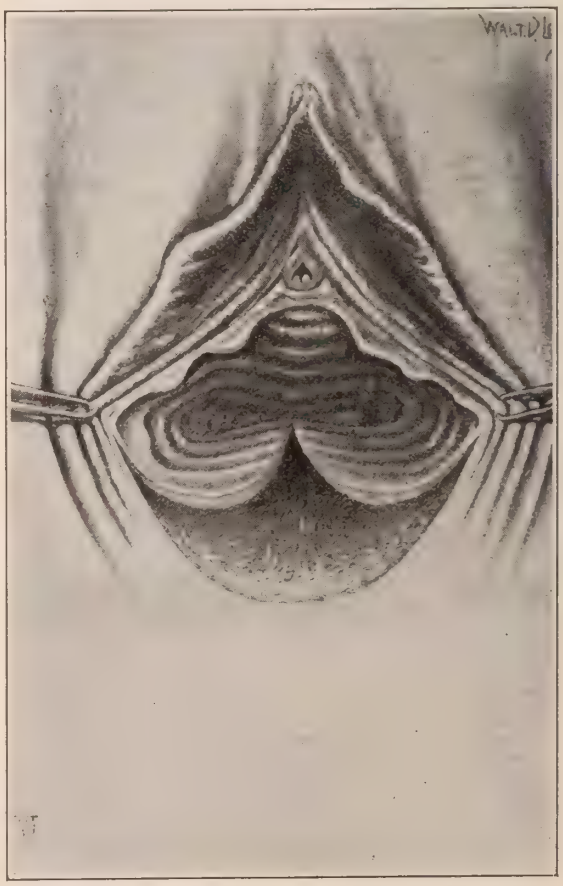


Fig. 6. More extensive excision of posterior vaginal wall than in figure 1.

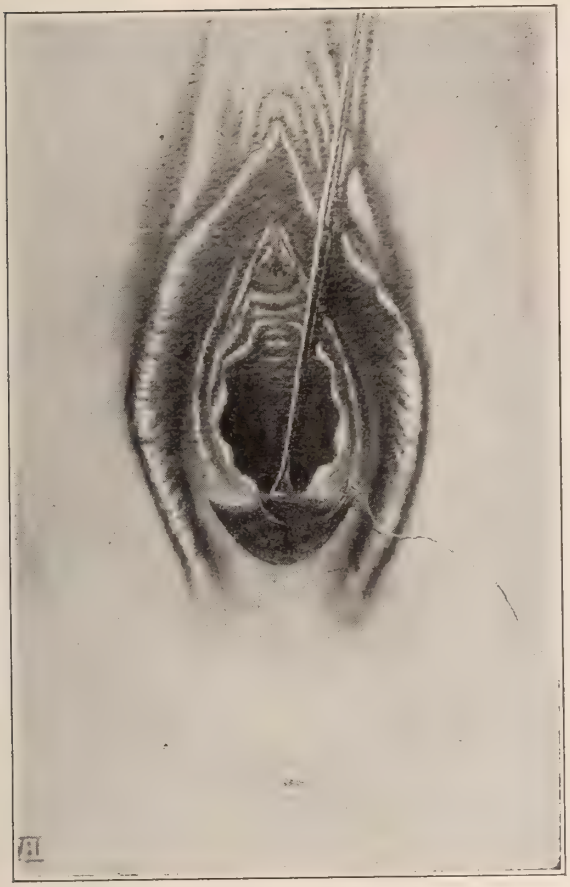


Fig. 7. Method of exposure and repair of relaxed tissues of perineum when of slight degree and without rectocele.

Where the tear is complete, the above technic may be supplemented by the elevation of a vaginal flap as devised by Warren.

In the case with but moderate relaxation, without cystocele or rectocele, the damaged perineal structures may be exposed and repaired as shown in figure 7.

A good technic for vaginal plastic repair should restore the torn or relaxed structures to a condition approaching normal, should guard against recurrence, and lend itself to rapid execution, since any one of these procedures is frequently but one of a number of operations carried out at one time and closely dependent upon each other for success.

516 Federal Street.

OPEN SAFETY PIN IN ESOPHAGUS OF INFANT FOUR-AND-A-HALF MONTHS OLD

F. J. BISHOP, M.D.
SCRANTON, PA.

An infant four-and-a-half months old was referred by Dr. P. B. Peterson, of Honesdale, Pa.

While dressing the baby, the mother had the child lying on her lap, and while opening a safety pin to fasten the clothing, the pin sprang out of her fingers and entered the mouth of the crying baby. The mother immediately tried to remove it, but was unable to find it.

Dr. Peterson was called, and saw the baby shortly after the accident. He examined the mouth and pharynx, using a small electric light, but was unable to see the pin, although the mother was positive it had entered the baby's mouth.

An x-ray was made at the Doctor's office, which showed the pin in the esophagus, with the lower end just above the suprasternal notch, point to the left and, as usual, upward. The accident happened about 1.30 p. m. and after driving thirty-six miles, the father, mother, and child arrived at my office about 5.30. No symptoms were noticeable, except some crying and worrying of the child, who unfortunately had nursed in the meantime.

The esophageal speculum was introduced, but the pin could not be seen. The seven-millimeter esophagoscope was then introduced, with which the pin was visible just above and anterior to the cricopharyngus muscle, point upward and to the left. Trouble and delay was caused by the baby's recent nursing until suction gave a clear view. The crying of the child kept the pin in constant motion. Tucker's pin and tack forceps were introduced, and the pin grasped below the point on the inside. The forceps were then rotated to the outside of the point, and the pin was easily removed. The time consumed was ten minutes, and there was no anesthesia used.

After the removal, the baby, so far as could be seen, was perfectly happy, and soon went to sleep. There were no after effects.

This case was the result of a pure accident, and was not due to the usual carelessness which permits children to obtain foreign bodies. On a hasty review of the literature, I find that this is one of the youngest patients reported to have had an open safety pin in the esophagus.

220 Connell Building.

EDITORIALS

EDUCATING THE PUBLIC

Quite recently Dr. Chevalier Jackson appeared before a combined gathering of the Kiwanis, Rotary, and other clubs of Wilmington and gave a masterful talk, illustrated with lantern slides, on the subject of the prevention of accidental deglutition and inhalation of foreign bodies and caustic substances by children. The subject was more or less technical and ordinarily would have

been dry, as most medical matters are, but by the use of nontechnical language and a sprinkling of real wit, Dr. Jackson captured his audience and held it to the last minute. His earnest plea for safety found a ready response, and no speaker was ever greeted with a more profound understanding or greater enthusiasm. Dr. Jackson did more than merely present and win his case. He succeeded in impressing his lay audience with the dignity of the medical profession and its noble aims in the field of preventive medicine.

As we listened to the able speaker, the thought kept coming to our mind: What if a medical man equally gifted would appear before a Kiwanis or Rotary Club or similar organization, and talk about quackery, patent medicine, self-drugging, osteopathy, chiropractic, Christian Science, and the rest of the medicosocial evils? No one would accuse him of professional jealousy or suspect a selfish motive. A printed word, even if more far-reaching, is never as effective as a spoken word. Why not have our great medical leaders go forth and speak to lay audiences on these matters? Yes, why not?

THE TREATMENT OF PNEUMONIA

Somewhere between the *laisser faire* of the therapeutic nihilist and the meddlesome therapy of the drug devotee there is a middle course which the physician should follow, if he is to save his patients.

A proper understanding of the underlying pathology of pneumonia is essential. There are a number of possible combinations which determine both the course and gravity of the disease. The association of the pneumococcus with either the influenza bacillus or the streptococcus presents a serious aspect from the start, not only because of the symbiosis and the effect of the mixed toxins, but more particularly on account of the lower resistance induced by the influenza. In uncomplicated pneumonias, the virulence of the pneumococcus, whether it belongs to type one, two, three, or four, determines the prognosis, type one being the most benign, while type four is almost invariably fatal. However, even in the milder pneumonias, the outcome will depend on whether the pneumococcus remains localized in the lungs or invades the blood stream. So long as the latter remains sterile, the patient's chances are good, even if he is critically ill.

Obviously, the physician's effort should be directed toward the prevention of bacteremia, a task requiring all the skill and attention of which he is capable. A number of factors are involved in this issue: the patient's resistance, the type of the pneumococcus, and, what is of the greatest importance, the stage of the disease during which energetic treatment is instituted. The resistance may be increased by proper hygienic measures and such therapeutic agents as will relieve distressing symptoms and thus contribute toward the comfort and well-being of the patient. The prevention of the invasion of the pneumococci into the blood stream is a much more difficult undertaking, and yet we are fortunate in having definite means at our command to accomplish even this task, in a great many cases. It is quite possible that, as maintained by Dr. S. Solis-Cohen, large doses of quinin are useful. This drug is known to increase leukocytic activity, and it is also bactericidal. It would seem that intravenous administration should prove more effective and less disturbing to the digestive organs. As to specific treatment, recent experience seems to indicate that Huntoon's serum possesses definite bactericidal properties, and is effective particularly in types one and two. Recently, diathermy has been gaining quite a number of advocates. Its beneficial effect is due most likely to the hyperemia it engenders and the mobilization of immune substances in the blood.

Whatever treatment is instituted, it should be resorted to at the earliest possible moment. Pneumonia is at best a grave disease, and no time can be wasted in "watchful waiting." A daily visit (or even two visits a day) is not sufficient. In almost every case, constant medical attention is required; and if the attending physician is too busy to afford the time, he should either give up the case or call in assistance. Only in this way may the mortality from this disease be lessened.

Medical News

Deaths

JOHN B. KAIN, M.D., of York; Jefferson Medical College, 1871; aged 76; May 3.

CHARLES BAUER, M.D., of Philadelphia; Jefferson Medical College, 1884; aged 83; April 23.

WILLIAM H. LEWIS, M.D., of Mt. Carmel; Jefferson Medical College, 1888; aged 65; in March.

FRANCIS E. DRUMHELLER, M.D., of Sunbury; Jefferson Medical College, 1886; retired; April 13.

ROBERT M. QUIG, M.D., of East Waterford; Jefferson Medical College, 1875; aged 71; April 10.

AMOS W. BENNETT, M.D., of Williamsport; Louisville Medical College, Kentucky, 1892; April 23.

JOSEPH MARTIN, M.D., of Philadelphia; Jefferson Medical College, 1878; aged 77; May 1, of heart disease.

CHARLES PAUL PIKE, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1885; aged 72; May 3.

EDWARD W. TOOLE, M.D., of Selinsgrove; College of Physicians and Surgeons, Baltimore, 1881; aged 74; March 13.

JAMES M. CROWE, M.D., of Huntingdon Valley; University of Pennsylvania School of Medicine, 1904; aged 48; May 1.

ALBERT E. NORTON, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1884; aged 66; March 26.

JOHN W. DECKARD, M.D., of Richfield; Cincinnati College of Medicine and Surgery (Ohio), 1874; aged 77; April 14.

LOUIS J. LAUTENBACH, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1881; aged 66; May 19.

J. C. WAKEFIELD, M.D., of Vinco; Western Reserve University School of Medicine, Cleveland, Ohio, 1878; aged 73; April 5.

THOMAS V. CAHALL, M.D., of Frederica, Del.; Jefferson Medical College, 1874; aged 74; March 14, of cerebral hemorrhage.

HENRY HEILEMANN, M.D., of Philadelphia; Jefferson Medical College, 1893; Spanish-American-War veteran; aged 61; May 21.

HOWARD TERRY, M.D., of Phoenixville; Hahnemann Medical College and Hospital of Philadelphia, 1901; aged 50; May 19, of heart disease.

AMBROSE PEFFER, M.D., of Newville; Jefferson Medical College, 1887; coroner of Cumberland County; aged 63; May 23, of heart trouble, in the Carlisle Hospital.

JOHN W. ELLIOTT, M.D., of Sharon; Western Reserve University School of Medicine, Cleveland, Ohio, 1889; Jefferson Medical College, 1890; aged 68; April 19, of pneumonia.

HENRY BEATES, JR., M.D., of Wayne and Philadelphia; University of Pennsylvania School of Medicine, 1879; former president of the State Board of Medical Examiners, and a pioneer in the movement against "diploma mill"; aged 77; May 25, in the Anderson Hospital.

FRANK P. SUMMA, M.D., of Nanticoke; University of Pennsylvania School of Medicine, 1913; aged 39; May 14, of heart disease, as he was about to perform an operation. His wife, who was Dr. Ella Rynkiewicz prior to their marriage three years ago, and who is still practicing medicine, survives him.

WILLIAM CARROLL, M.D., of Philadelphia; Jefferson Medical College, 1863; aged 91; May 3. He was a veteran of the Civil War. After his graduation he entered the Union Army as an assistant surgeon. He served in Tennessee, and later in the final campaign in Virginia at the close of hostilities, being in charge of the Union Army patients in Confederate hospitals at City Point, Va. As the result of his voluntary action in boarding a troop ship at Beaufort, S. C., to fight an epidemic of cholera, he was elevated to the rank of lieutenant-colonel at the close of the war.

Births

TO DR. AND MRS. ERNEST L. PERRI, of Monaca, a son, recently.

TO DR. AND MRS. EUGENE DELANEY, JR., of Williamsport, a daughter, April 14.

TO DR. AND. MRS. DONALD B. STOUFFER, of Harrisburg, a son, Donald Calvin Stouffer.

TO DR. AND MRS. FRANK M. DYSON, of Philadelphia, a daughter, Helen Ruth Dyson, May 12.

TO DR. AND MRS. J. HAROLD AUSTIN, of Merion, a daughter, Thelma Frances Wood Austin, May 12.

TO DR. AND MRS. EDWARD SAUNDERS DILLON, of Philadelphia, a son, Edward Vansant Dillon, May 19.

Engagements

MISS SEIPLE, of New Brighton, to Dr. N. R. Crumrine, of Beaver.

MISS ELIZABETH J. GARDINER to Dr. L. Kraer Ferguson, both of Philadelphia.

MISS DOROTHY DORSETT, daughter of Dr. and Mrs. Rae S. Dorsett, Philadelphia, to Mr. Frederic Charles Walsh, Passaic, N. J.

MISS ELIZABETH DEAN WILBUR, daughter of Dr. and Mrs. B. K. Wilbur, Philadelphia, to Mr. Hugh Borton, of Moorestown, N. J.

MISS ALLISON JOY DIX, of South Orange, N. J., to Mr. Lewis Sterling Kunkel, son of Dr. and Mrs. George B. Kunkel, of Harrisburg.

MISS SOPHIE ELIZABETH ARNOLD, daughter of Dr. and Mrs. Herbert A. Arnold, of Ardmore, to Dr. Frederick Poole, of Philadelphia.

MISS LILY MACLEOD, daughter of Dr. and Mrs. George Inglis MacLeod, of Ardmore, to Mr. Robert Glendinning, Jr., of Philadelphia.

MISS SARA ADELAIDE PYLE, of Haverford, daughter of Mrs. Walter L. Pyle and the late Dr. Walter L. Pyle, to Mr. John Marshall Crossman.

Marriages

MISS ADA C. PRUDEN, of Harrisburg, to Mr. J. Clarence Funk, son of Dr. and Mrs. David S. Funk, of Harrisburg, May 15.

MISS MABEL D. MCILVAIN, of Ardmore, to Mr. Robert N. Downs, 3d, son of Dr. and Mrs. Robert N. Downs, Jr., of Germantown, June 15.

MISS MILDRED FRANCES GISH, of Elizabethtown, to Mr. Jackson Miller Blackburn, son of Dr. and Mrs. Albert E. Blackburn of Philadelphia, April 24.

MISS MARY ELIZABETH ASHHURST, of Charlottesville, Va., granddaughter of the late Dr. John Ashhurst, and niece of Dr. Astley P. C. Ashhurst, of Philadelphia, to Mr. George Edward Walker, Jr.

MISS KATHERINE LOUISE MOFFAT, of Pittsburgh, to Mr. Richard W. Thorington, son of Dr. and Mrs. James Thorington of Philadelphia, June 12. Dr. J. Monroe Thorington will serve as best man for his brother.

Miscellaneous

DR. J. M. CORSON, of Hughesville, has been seriously ill at his home.

THE BRITISH HOUSE OF LORDS has adopted a bill favoring birth control.

DR. D. C. MOORE AND WIFE, of Monaca, have returned from a trip to Bermuda and Havana.

THE EPISCOPAL HOSPITAL TRAINING SCHOOL FOR NURSES, Philadelphia, graduated 27 nurses May 12.

THERE WERE TEN in the 1926 graduating class of the Training School for Nurses, Chambersburg Hospital.

DR. R. S. CASTELAW, Superintendent of the Williamsport Hospital, recently announced his resignation.

DR. AND MRS. HOWARD F. HANSELL, of Philadelphia, sailed May 12 for Italy, where they will spend four months.

DR. JOHN D. BOGER, of Lebanon, has been appointed roentgenologist at the Good Samaritan Hospital, Lebanon.

DRS. ALBERT P. BRUBAKER and E. E. Graham have tendered their resignations from Jefferson Medical College.

DR. AND MRS. CHARLES S. REBUCK AND SON, Lawrence, of Harrisburg, will spend the summer motoring through Europe.

DR. WILLIAM TYLER DOUGLASS and family, of Harrisburg, will leave the middle of June for an extended trip through Europe.

DR. ROBERT F. RIDPATH has been elected professor of rhinolaryngology in the School of Medicine of Temple University.

DR. LLOYD E. WURSTER, of Williamsport, has been elected president of the Roentgen-Ray Society of Central Pennsylvania.

DR. AND MRS. JOHN E. JAMES, Jr., of Philadelphia, will sail the latter part of June for Europe, where they will spend the summer.

A CIVIL SERVICE RETIREMENT BILL in behalf of nurses in the Federal service, which calls for $50,000,000 is pending in Congress.

THE MEMORIAL HOSPITAL, of Philadelphia, will conduct a campaign for $250,000 to enlarge and modernize the present original building.

DR. JAMES E. DICKINSON, of Harrisburg, has been appointed examining surgeon of the Harrisburg bureau of the Federal Bureau of Pensions.

DR. AND MRS. R. TAIT MCKENZIE, of Philadelphia, sailed on May 29 for Scotland, where they have taken a house for the summer season.

DR. H. C. WINSLOW, of Meadville, delivered an address on "Preventive Medicine" at the monthly meeting of the Meadville Round Table, April 26.

DR. WILLIAM JACKSON MERRILL, of Philadelphia, held the fourteenth Crippled-Children Clinic at the Geisinger Hospital, Danville, on April 14.

DR. WILMOT AYRES, of Carlisle, has gone to Boston for several months to do postgraduate work at the Harvard Medical School and in Boston hospitals.

DR. RICHARD R. SPAHR, of Mechanicsburg, has been elected to the school board to fill a vacancy created by the resignation of one of the members.

FIFTY-TWO NURSES were graduated from the Jefferson Medical College Hospital Training School, May 7. The address was made by Dr. John M. Fisher.

TWELVE NURSES were graduated from the Germantown Hospital Training School for Nurses in May. Dr. Ellen C. Potter, Welfare Secretary, delivered the address.

THE SOUTH BRANCH of the Philadelphia County Medical Society celebrated its twenty-fifth anniversary May 20. Dinner was served at the County Society building.

TWENTY-SEVEN YOUNG WOMEN received diplomas at the annual graduating exercises of the School of Nursing of the Hahnemann Medical College and Hospital, April 27.

THE FIFTH ANNUAL CLINIC and dinner of the Clearfield Hospital was held on May 12. The morning was devoted to surgical, medical, obstetric, and x-ray clinics.

DR. AND MRS. F. COLLETTI, of Reading, sailed for Europe on April 27, having joined the tour of American physicians under the auspices of the Inter-State Postgraduate Clinic Assemblies.

DR. F. S. GILLESPIE, of Swarthmore, and a companion recently were rescued from beneath a blazing, overturned automobile. Neither was burned, but both suffered from numerous other injuries.

CARDINAL DOUGHERTY laid the corner stone for the new $500,000 nurses' home at St. Joseph's Hospital, Philadelphia, on May 23. The new building is six stories in height and contains 108 sleeping rooms.

MR. ALBA B. JOHNSON, of Philadelphia, former president of the Baldwin Locomotive Works, has been elected president of Jefferson Medical College, to fill the vacancy caused by the death of Mr. William Potter.

THE PHILADELPHIA HEART ASSOCIATION was addressed April 27 by Dr. Paul D. White, Boston, Mass., on "The Prognosis of Angina Pectoris and Coronary Thrombosis," based on personal observation of 200 cases.

THE FEDERAL GOVERNMENT struck its first blow, in a nation-wide campaign against alleged "fake" medical remedies distributed by mail, at Kansas City recently when three concerns and a number of individuals were indicted.

DR. WALTER E. DANDY, of Johns Hopkins Hospital, Baltimore, Md., delivered the R. W. Stewart Memorial Surgical Lecture before the Academy of Medicine, Pittsburgh, May 6. The title of his paper was "The Diagnosis and Localization of Brain Tumors."

THE EIGHTIETH ANNIVERSARY of the Northern Medical Association of Philadelphia was celebrated by a banquet on May 17, with Dr. Arthur C. Morgan, president, acting as toastmaster. Dr. Wilmer Krusen, Director of Health, Philadelphia, was the guest of honor.

BY THE DISTRIBUTION of more than $1,000,000 in the residuary estate of H. C. Frick, the beneficiaries include a number of Pittsburgh district hospitals, homes, charitable associations, and educational organizations, as well as the Harrisburg Hospital, $10,000.

MISS JEANNE BEHREND, 15, daughter of Dr. and Mrs. Moses Behrend, of Philadelphia, on the night of April 29, played some of her own compositions at a concert at the Curtis Institute of Music, where she is a student of the piano under Josef Hofmann.

THE WESTMORELAND COUNTY MEDICAL SOCIETY held its annual banquet at the Greensburg Country Club May 6. Dr. W. A. Copeland was toastmaster, and the guest speakers were Drs. Frank H. Lahey and Elliott P. Joslin, of Boston, Mass., and E. C. Higbee, Esq., of Uniontown.

A TWENTY-THREE-STORY MEDICAL ARTS BUILDING, to be the headquarters of the American Dental Association, the Chicago Medical Society, and many physicians and dentists, as well as the Medical Arts Club, will be erected in the central business district of Chicago at a cost of $4,500,000.

THE CLASS OF 1866, School of Medicine of the University of Pennsylvania, numbering twelve surviving members, with Dr. S. S. Stryker as secretary, will celebrate its sixtieth anniversary on Alumni Day, June 12. The class of 1876 will celebrate its fiftieth anniversary on that occasion.

DR. NORMAN CRUMRINE, of Beaver, who has been suffering from blood poisoning, showed improvement following a blood-transfusion operation to which his fiancee, Miss Elizabeth Seiple, of New Brighton, submitted. Upon his recovery, Dr. Crumrine and Miss Seiple plan to be married this June.

THE BY-LAWS of the Philadelphia County Medical Society have been changed to permit the nomination and election of a president-elect. At a recent meeting of the Society, Dr. Frederick S. Baldi was unanimously nominated as the 1927 president, and Dr. I. P. Strittmatter was nominated president-elect.

THE PITTSBURGH OPHTHALMOLOGICAL SOCIETY gave a dinner in honor of Prof. Leonhard Koeppe, of the University of Halle, Germany, Friday evening, May 28. Following the dinner, Professor Koeppe gave a lecture, in English, on "The Early and Differential Diagnosis of Several Forms of Cataract With the Slit-Lamp."

THE SOUTHERN INTERURBAN CLINICAL CLUB OF INTERNES were the guests of the Jefferson Hospital, the Philadelphia General Hospital, and the Hospital of

the University of Pennsylvania May 6 and 7. The visit to Philadelphia was the fifth "travel trip" of the organization to the great medical centers of the country.

IT WAS VERY INTERESTING TO NOTE in the press in May that the local chairman down York way for one of the aspirants for United States Senator was highly incensed because borough authorities put a ban on all public gatherings on account of a measles epidemic, which prevented a meeting scheduled for his candidate.

PATIENTS AND FRIENDS of Dr. James M. Hamilton, Oakmont, a suburb of Pittsburgh, recently presented him with a new motor car on his completion of fifty years in practice in that community. In the near future the Chamber of Commerce will celebrate the occasion by the observance of "Hamilton night."

THE WELL-DRESSED YOUNG WOMAN found unconscious in her room in the Morrison Hotel, Chicago, was identified at the county hospital as Miss Mildred Furst, of Philadelphia, an army nurse during the World War. The former soldiers whom she cared for in a hospital came to her aid as she lay a helpless stranger in the county institution.

DR. FREDERICK HENRY BAETJER, professor of roentgenology at Johns Hopkins Medical School, the "last of the Old Guard," with the scars of more than threescore and ten amputations and skin-grafting operations, is back in the fight, after the seventy-second operation in March. He has lost seven fingers and one thumb since he began x-ray work in 1901.

AMERICA'S OLDEST HOSPITAL, the Pennsylvania, at Philadelphia, founded by Benjamin Franklin, celebrated its 175th anniversary on the afternoon of May 20 with a public meeting on the lawn. Several addresses were made, followed by a luncheon and an inspection of the hospital. Many historical documents and objects long in the possession of the hospital were displayed to the visitors.

ON MAY 27, the guests of honor at the reception of the Medical Club of Philadelphia, were the following surviving original members: Drs. W. Easterly Ashton, James M. Barton, L. Webster Fox, T. Chalmers Fulton, George Goebel, Hobart A. Hare, G. Betton Massey, Charles K. Mills, E. E. Montgomery, George de Schweinitz, S. MacCuen Smith, I. P. Strittmatter, and James Van Buskirk.

EDWARD M. LANDIS, Philadelphia, senior in the University of Pennsylvania School of Medicine, for the fourth consecutive time captured the Mary Ellis Bell Prize, awarded annually for the best work in student research. The award carries with it $20 in gold and a bronze medal bearing on its face the head of Hippocrates, as designed by Dr. R. Tait McKenzie, director of physical education at the University.

THE ALUMNÆ ASSOCIATION of the Woman's Medical College of Pennsylvania, Philadelphia, celebrated the seventy-sixth anniversary of the College June 10 and 11. Dr. Lillian K. P. Farrar, Assistant Visiting Chief, Gynecological Service, Woman's Hospital, New York City, gave a paper on "The Reaction of Tissues to Radium Treatment in Cancer of the Cervix, and the Importance of Lacerations in Cancer in this Location."

THE WILL OF MRS. FANNIE RICE, Philadelphia, provides for the distribution of $41,000 among charitable institutions and hospitals in Pennsylvania. The sum of $10,000 is left to the Jewish Hospital for endowment of a free room. The Woman's Convalescent Home at Andalusia receives $10,000 for construction of a building or endowment of a room, and the Eaglesville Sanitarium, at Eaglesville, receives a like sum. The Mt. Sinai Hospital receives $5,000.

AT THE APRIL MEETING of the Dickens's Fellowship, Philadelphia, Dr. Charles W. Burr spoke on "Dickens's Medical Knowledge; General vs. Training." He said when Dickens spoke of medicine he did not do it as a man of learning, while Shakespeare, who knew no more about medicine than the average man, created the impression that he was a savant of the science. In defense of Dickens, Dr. Burr said the writer never slurred the medical profession.

INSISTING THAT THE BROKEN LEG he sustained in a fall of slate in a coal mine is divine punishment, an employee in Uniontown has refused compensation on the ground that acceptance of such money would be a "violation of the laws of God." He has refused to accept the checks, which total now more than $300. The wife appeared in court and asked to have the compensation paid to her. She says she and the children are in need. The court will try to find a way to have payments made to her.

THE POSSIBILITIES OF A GREAT STRIKE like the recent one in Great Britain are very far-reaching. Although the General Council of the Trades Union Congress directed in its manifesto that the hospital services should not be interrupted, the supply of electric current to the London Hospital and the Whitechapel Infirmary was cut off. Difficult operations could not be performed, the x-ray apparatus was rendered useless, and the entire work of these hospitals was disorganized.

SEVEN TRUSTEES have been chosen who will see that the purposes of the founders of the Behavior Research Fund of Chicago are carried out in the investigation of unsolved problems of human behavior. Dr. Herman Adler, director of the Institute for Juvenile Research, will head the new bureau. Unusual steps have been taken to safeguard the $275,000 fund raised among 400 friends of children. Full scientific freedom is accorded the staff of distinguished physicians, psychiatrists, psychologists, and other experts associated with this activity.

UNIVERSITY APPOINTMENTS AND PROMOTIONS.—Dr. Eliot R. Clark of the University of Georgia School of Medicine has been appointed professor of anatomy at the University of Pennsylvania School of Medicine. Dr. David H. Bergey has been promoted to professor of hygiene and bacteriology; Dr. Morton McCutcheon to be assistant professor of pathology in the school of medicine; James C. Andrews to be assistant professor of physiologic chemistry, and Dr. Stanley O. Chambers to be assistant professor of dermatology and syphilology.

ON MAY 13, 343 members of the Medical Club of Philadelphia made a trip to Annapolis, Md. Following the luncheon served at Carvel Hall, the members were conducted through the United States Naval Academy by Captains Bell and Holman of the medical corps. The officers were most courteous in their attention to the visitors. The contrast was striking in comparison to the trip made by the Club to West Point last year. Dinner was served at the Southern Hotel, Baltimore, and the members returned to Philadelphia, all eminently satisfied with the wonderful outing.

DR. SIMON P. GOODHART, Professor of Clinical Neurology at Columbia University, announced to the Yale Medial Society that the first film library in the world is to be established in New York. The films will consist of hundreds of reels of pictures taken by physicians at work in their clinics, who will demonstrate the latest discoveries in the field of medicine. These films will be sent to all parts of the world, with the result, he said, that physicians and scientists will not only read in their scientific journals of the discovery, but can see through slow motion pictures just how the discovery works.

THE COMMITTEE ON BIOLOGICAL PRODUCTS of the American Pharmaceutical Association and the National Association of Retail Druggists, after an exhaustive study of the distribution of biological products and other medicaments, has found that a more efficient and reliable service can be rendered to the medical profession by the professional pharmacists of the United States in

supplying such products if physicians will give support to their activities. An educational campaign is being inaugurated among pharmacists to maintain an ample stock of biologicals and allied products under proper refrigeration to meet the requirements of the physicians.

DEATHS FROM SUICIDE came to 1,031 persons in Pennsylvania in 1924, the State Department of Health announced in making public final figures of the twenty leading causes of death in that year. Deaths from all causes in 1924 totaled 113,321. The largest number of deaths, 17,138, was attributed to heart disease, and the second largest number, 12,622, to all forms of pneumonia. Nephritis caused 9,114 deaths; cerebral hemorrhage, 8,717, and cancer, 8,125. The Department states that 61 per cent of the 7,533 deaths from tuberculosis was among persons whose ages ranged from 15 to 45 years, and that 89 per cent of the 1,059 deaths from diphtheria occurred among children under the age of ten. The report showed that fatalities due to automobile accidents totaled 1,535; to accidents in mines, 896; and to burns, 855.

IT IS EXPECTED that about 150 physicians and their wives will meet at Warren, Monday, June 21, for the annual meeting of the physicians of northwestern Pennsylvania. This society is composed of physicians practicing in Erie, Venango, Warren, Crawford, Mercer, Clearfield, and Clarion Counties, and meets but once a year. Following a dinner, there is a speaker of national reputation. The session is a short one, and the wives of the members are welcome at the dinner, after which they are entertained by a separate committee. Dr. Thomas McCrae of Jefferson Medical College will be the speaker this year, his subject being "Every-day Problems in Medicine." The present society is a revival of one existing about twenty years ago which functioned several years and then disbanded. This will be the third anniversary of the new organization. Dr. Wm. M. Robertson, of Warren, is the president.

THE HOUSE OF REPRESENTATIVES at Washington, D. C., on May 5, passed a bill providing retired pay for nurses of the Army and Navy. The credit for the passage of the bill is given to Mrs. Florence P. Kahn of California, and Mrs. Edith N. Rogers, of Massachusetts, who succeeded to seats in Congress vacated by the deaths of their husbands. The bill provides that a military nurse may be placed on the retired list with pay after thirty years of service if she has reached the age of 50. Mrs. Kahn and Mrs. Rogers appealed for the bill on the grounds that the nurses' work was arduous at all times, that they were denied the right to marry while in Government employ, and that they suffered from other discriminations as compared with officers and men in the Army and Navy. The first officially wounded member of the American Army in the World War was a woman—a nurse—a member of the Army Nurses' Corps, who lost an eye from a piece of shrapnel.

THE SHRINERS' HOSPITAL FOR CRIPPLED CHILDREN, Philadelphia, will be opened June 24. The hospital, which will be the largest of its kind established by the Shriners, will have 100 beds. Its mission will be to cure crippled children not over fourteen years of age, regardless of race or religion, whose parents or guardians are so poor that they are unable to provide treatment for them. The only requirement is that the children are of normal mentality and that there is reasonable hope of materially improving their condition through orthopedic surgery. A staff of thirty orthopedic surgeons and physicians and forty nurses is now being organized by the hospital's board of trustees. The hospital will have the most modern equipment known for the treatment of orthopedic cases. There are now Shriners' hospitals in Shreveport, Twin Cities, St. Louis, Portland, Ore., San Francisco, Montreal, and Chicago. The Philadelphia hospital is a $500,000 structure. It occupies 16 acres of ground on the Roosevelt Boulevard, and $150,000 will be expended on equipment.

AT THE CONVENTION of the American Stomatological Association held on April 6, the following officers were reëlected for the year: President, Dr. Weston D. Bayley, Philadelphia; president-elect, Dr. George R. Satterlee, New York City; first vice-president, Dr. George W. Mackenzie, Philadelphia; second vice-president, Dr. Oliver T. Osborne, New Haven, Conn.; treasurer, Dr. Robert H. Rose, New York City; recorder, E. B. Hardisty, New York City; general secretary, Dr. Alfred J. Asgis, New York City.

The American Board of Stomatology was created at this convention, in order to facilitate the maintenance of a "standard" of fitness for the practice of stomatology as a medical specialty during the "transitory period." This examining board will issue certificates of proficiency to those who qualify under the established standard, and they will be admitted to the Annual Stomatological Medical Register.

The next convention will take place at the New York Academy of Medicine, April 19, 20 and 21, 1927.

IN AN ATTEMPT to check the illicit supply of whisky in many of the rural counties of the State, officers served warrants against the firm of Knouse and Knouse, wholesale druggists, of Harrisburg, and several physicians in central and eastern Pennsylvania. The defendants are Jacob and Ella B. Knouse and Elizabeth Walsh, members of the drug firm, and five employees. They are charged with sale, transportation, receiving and soliciting orders for contrabrand liquor, and violation of permits. Warrants were sworn out against the following physicians: Drs. Fred Rice, Sunbury; H. W. Posey, York; Montgomery Gearhart, Millerstown; R. L. Williams, Houtzdale; S. S. Mann, Columbia, and W. S. Enfield, Bedford. The physicians are charged with conspiracy, violation of a section of the prohibition act requiring a physical examination of a patient to whom whisky is prescribed, and violation of Section 29, providing against false records of prescriptions. It is alleged the physicians sent fictitious names on prescriptions to the drug house. The drug firm, it is alleged, had a regular mail-order system of disposing of liquor, through which it did a large business in a medicine which was a compound of alcohol and coloring water.

THE AMERICAN COLLEGE OF PHYSICAL THERAPY announces a Prize Thesis Contest, subject to the following rules and conditions:

This contest is open to licensed clinicians, physicists, and fourth- and fifth-year medical students from *recognized* medical schools. The subject must be on some branch of physical therapeutics embracing galvanism, diathermy, radiant heat-light, ultraviolet light, x-rays, radium, hydrotherapy, and exercise. The paper must be limited to 2,000 words or less, and must involve some problems of research, laboratory or clinical, pertaining to closely allied or actually on physical therapeutics. A short abstract of 200 words or less should accompany all papers, which are to be typewritten on one side of paper only and double-spaced.

All theses must be submitted to the Chairman of Thesis Committee, Dr. D. Kobak, 30 North Michigan Ave., Chicago, Ill., not later than August 15, 1926. The judges will be selected from the faculties of several medical schools, and will be men who are not connected with the College.

There will be six prizes (physical-therapy equipment) the total value of which will exceed $2,500. Announcement of winners will be made at the Clinical Congress to be held at the Drake Hotel, Chicago, October 18-23, 1926. The winning papers will become the property of the College and will be published in its official journal.

THREE NEW MINE-SAFETY MOTION-PICTURE FILMS of one reel each, produced by the Bureau of Mines in coöperation with one of the larger coal-mining companies, are now available for distribution.

"Twelve Points of Safety" is the title of a film designed to impress upon mine officials and miners a few

of the most important safety measures to be taken in connection with the daily operation of coal mines.

"First Aid to the Injured" is the name of a one-reel film illustrating the proper methods of emergency treatment to be used in case of some of the mishaps encountered in the work of mining. Methods of giving artificial respiration to victims of electric shock, apparent drowning, and carbon-monoxid poisoning, are depicted, and the administration of oxygen in appropriate cases is shown. The dry, sterile dressing of open wounds is illustrated. An ingeniously devised scene illustrated the three types of bleeding from wounds—from capillaries, from veins, and from arteries. Methods of controlling these different types of bleeding are illustrated.

"The Use and Care of Mine Rescue Apparatus" is a one-reel film depicting the use and care of self-contained oxygen breathing apparatus.

Copies of any or all of these three educational motion-picture films may be obtained free of charge for exhibition by schools, churches, clubs, civic organizations, and other bodies by applying to the experiment station of the U. S. Bureau of Mines, Pittsburgh, Pa. Transportation charges both ways are paid by the exhibitor.

BOOKS RECEIVED

MODERN MEDICINE; Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart, M.D., F.R.S. Third edition, thoroughly revised. Reëdited by Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia; assisted by Elmer H. Funk, M.D., Assistant Professor of Medicine, Jefferson Medical College, Philadelphia. Volume III: Diseases of Metabolism; Diseases of the Digestive System. Illustrated. Philadelphia and New York: Lea & Febiger, 1926. Price, $9.00.

EMERGENCY SURGERY. The Military Surgery of the World War Adapted to Civil Life. By George de Tarnowsky, M.D., F.A.C.S., D.S.M., Professor of Clinical Surgery, Loyola University Medical School; Attending Surgeon, Ravenswood Hospital, Chicago, Ill. Illustrated with 324 engravings. Philadelphia and New York: Lea & Febiger, 1926. Price, $7.50.

THE SURGICAL CLINICS OF NORTH AMERICA (Issued serially, one number every other month). Volume VI, No. 2 (San Francisco Number), April, 1926. 250 pages with 73 illustrations. Per clinic year (February, 1926, to December, 1926), paper, $12.00; cloth, $16.00 net. Philadelphia and London: W. B. Saunders Company.

THE CLINICAL INTERPRETATION OF THE WASSERMANN REACTION. By Robert A. Kilduffe, A.B., A.M., M.D., Director, Laboratories, Atlantic City Hospital; Consulting Serologist, Betty Bacharach Home for Children, Atlantic City, N. J. Illustrated. Philadelphia and New York: Lea & Febiger, 1926. Price, $2.50.

COLLECTED PAPERS BY THE STAFF OF THE HENRY FORD HOSPITAL (First Series, 1915-1925). Octavo, cloth, 665 pages, 151 illustrations, and 42 charts. New York City: Paul B. Hoeber, Inc., 67 East 59th St. Price, $8.00 net.

MATERIA MEDICA AND THERAPEUTICS, INCLUDING PHARMACY AND PHARMACOLOGY. By Reynold Webb Wilcox, M.A., M.D., LL.D., D.C.L. Professor of Medicine (retired) at the New York Postgraduate Medical School and Hospital. Eleventh edition, revised in accordance with the U. S. Pharmacopœia, X, with index of symptoms and diseases. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. Price, $5.00 net.

A BIPOLAR THEORY OF LIVING PROCESSES. By George W. Crile. Edited by Amy F. Rowland. New York: The Macmillan Company, 1926.

THE INTERNATIONAL MEDICAL ANNUAL. A year book of treatment and practitioner's index. Forty-fourth year, 1926. New York: William Wood & Company, 51 Fifth Avenue. Price, $6.00.

EXPERIMENTAL PHARMACOLOGY. A textbook for students and physicians. By Dr. Hans H. Meyer, Professor of Pharmacology, University of Vienna, and Dr. R. Gottlieb, Late Professor of Pharmacology, University of Heidelberg. Second edition in English, translated by Velyien E. Henderson, Professor of Pharmacology, University of Toronto, from the seventh revised German edition. 87 figures, partly in colors, and 2 colored plates. Philadelphia and London: J. B. Lippincott Company. Price, $7.00.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

THE PRINCIPLES AND PRACTICE OF ENDOCRINE MEDICINE. By William Nathaniel Berkeley, Ph.D., M.D. Pp. 368; 60 illustrations. Philadelphia and New York: Lea and Febiger. 1926.

In order to use preparations of the ductless glands with some degree of scientific accuracy, the functions of these organs should be known. The incongruity of a scheme in which the products from organs of unknown function are administered in various disorders does not seem, however, to have been realized by the author of this book, even though he and his publishers do not hesitate to refer to the opinions of others as "old wives' fables" or as "pseudoscientific literature." Such characterizations as these should, at least, be given a foundation in the form of evidences of greater knowledge in the field under consideration. The author, however, merely reiterates the ignorance of the functions of all endocrine organs which is a general feature of the books on the subject published in recent years. The adrenals, for example, are not necessary to life. The sex hormones are no better understood than the vitamins. The recent researches of French, American, and Argentinian investigators that have badly shaken the secretory theory as to the pituitary body are dubbed erroneous merely on the strength of observations of zoölogists in amphibia which a little physiological knowledge would readily overthrow.

On what are practitioners to base rational organotherapy with such an empty species of "science" as starting-point? Reviewers are not inclined, nowadays, to favor books which encourage practical measures not based on a tangible foundation.

In general, it may be said, however, that Dr. Berkeley's work has been carefully written, and contains at least some useful data. The printing and illustrations of the book are wholly satisfactory.

THORACIC SURGERY. The Surgical Treatment of Thoracic Disease. By Howard Lilienthal, M.D., Professor of Clinical Surgery at Cornell University Medical School. Two octavo volumes totaling 1294 pages, with 90 illustrations, 10 in colors. Philadelphia and London: W. B. Saunders Company, 1925. Cloth $20.00.

In the publication of this work, the author has rendered to the medical profession a great service. For the general medical man, it is invaluable, since within its contents all diseases affecting the organs contained in the chest are treated exhaustively. Diagnosis is particularly emphasized, and constitutes one of the strongest features of this excellent work. It is unusual to find in a surgical treatise so much concise study and description of diagnostic methods; and on account of

this feature alone, it is worthy of being recommended to all who have to deal with diseases of the chest.

Dr. Lilienthal first discusses the general considerations and peculiarities of chest surgery; then takes up specifically the various organs, discussing the anatomy of each and the pathological conditions which may affect them. Treatment, medical or surgical, is then explained in detail, as well as the postoperative procedures and general care of the patient.

In his description of diagnostic and operative measures, nothing is left to the imagination; neither are there obscure references, but each procedure is vividly described. The illustrations are numerous and excellent, and roentgenograms are profusely used. The roentgenology portrayed in the two volumes is extensive, and gives an opportunity of studying the normal as contrasted with the abnormal.

The specialties as related to chest surgery are dealt with in detail; for example, physiology, anesthesia, blood transfusion, the intravascular treatment of thoracic aneurysm with wire and galvanism, and the treatment of pulmonary tuberculosis by induced pneumothorax.

Dr. Lilienthal and his collaborators have produced in this two-volume work a treatise on chest conditions which has not been equaled; it is clear, concise, well illustrated, and comprehensive. It should be in the hands of every active practitioner of medicine, and especially of those who practice chest surgery.

PYGMALION, or The Doctor of the Future. By R. M. Wilson, M.B., Ch.B. New York: E. P. Dutton and Company, 1926. Price $1.00.

In the interesting little essay that makes up the contents of this tiny volume, the author discusses the various *reactions* that play so important a part in life, and so commonly appear as what we know as the *symptoms of disease*. He considers that symptoms are not reactions to disease, but of altered reactions to life, occasioned by the presence of disease. Thus, breathlessness is a symptom which may owe its presence to disease; on the other hand, healthy folks are breathless if they overexert themselves.

A variety of internal and external reactions result in symptoms, some of which are disqualifying in many ways. Thus, eyestrain is a fruitful source of irritability; the peering victim lives in a "state of nerves."

A symptom is a sign of a reaction to, or counter-attack against disease. The relief of symptoms follows the removal of the cause; the treatment of a symptom by itself is of little avail. Much of the doctor's work consists in the removal of anxieties, which are productive of many symptoms, and in restoring the *esprit de corps* of the body. Such influences as music and art possess the power to "charm away depression and gloom," and so release energies for useful work.

The author believes that the medicine of the future will not be blind to these vast stores of help which lie ready to hand. Once upon a time the priest was the doctor; tomorrow the doctor may well have become the priest. At least he will see to it that his patient is free from gloom and anxiety, and possesses all of the confidence and support which the world can afford him.

His idea of the doctor of the future differs from much that is in the air at present. He says, "The physician of the future will not, as is now usually assumed, be a 'scientist' of the orthodox type, a man with the technic of laboratories at his finger ends, and with the aim of elucidating the phenomena of life in terms of chemistry or physics. Rather he will be a humanist, a man with the widest possible knowledge of human nature, and the deepest possible understanding of human motives. He will be a cultured man, ripe in intellectual attainments, but not lacking in emotional sympathy, a lover of the arts, as well as a student of the sciences. This is, indeed, no more than a projection into the future of a gracious figure of the past—for the great physicians of other days were all, likewise, great citizens of humanity. Yet the projection is, I think, justified by reason of the very skepticism it is sure to arouse. I look forward to the time when the practice of medicine will include, within its scope, every influence of known potency over the human spirit, and when the practitioner, like Pygmalion, will look on his work and see, not disease and death, but the glowing lineaments of life."

OCCUPATION VERSUS RESTRAINT. By L. Vernon Briggs, M.D. Boston: Wright and Potter Printing Co., 1923.

This book is copyrighted by the author, and apparently intended for private distribution. It deals almost exclusively with political incidents connected with Massachusetts administration of mental-hospital affairs. The narrative is obscured by a mass of inconsequential material that merely serves to elucidate the writer's prejudice. One lays down the book with the conclusion that the author did not approve of all the persons who played a part in the narrative, and that the complete story could be secured only by hearing other interested persons in rebuttal. There is nothing in its 205 pages that would interest any reader not familiar with the time and persons covered by the action.

NONSURGICAL TREATMENT OF DISEASES OF THE MOUTH, THROAT, NOSE, EAR, AND EYE. By Thomas H. Odeneal, M.D., Otologist, Rhinologist, Laryngologist, and Ophthalmologist to the Beverly Hospital Corporation, Beverly, Mass., etc. Philadelphia: P. Blakiston's Son & Co. Price $4.00 net.

The first 58 pages are devoted to the mouth, throat, and nose; then, to page 113 the accessory sinuses, ear, and intracranial and jugular complications of the ear are included. The eye, from page 113 to page 273, is very well handled. The various subjects treated in Part II are: the endocrine glands and their relation to diseases of the throat, nose, ear, and eye; the vegetative nervous system and the part it plays in these diseases; the administration of vaccines and serums; focal infections; headaches and neuralgias and x-ray diagnosis. There are also chapters on control of hemorrhage, cerebrospinal fluid, and tinted lenses. As the author says, he has confined himself, with a few exceptions, to the medical treatment of the diseases and the postoperative care of the more important surgical cases. The modern method of postoperative care of the mastoid and accessory sinuses, together with a discussion of the relative merits of various methods of cataract extraction, a comprehensive survey of imbalance of the muscles of the eye, and a revolutionary conception of deafness, are included. On the whole, the author shows a thorough knowledge of his subjects and his conclusions are sound.

PSYCHOLOGICAL HEALING. By Pierre Janet, Professor of Psychology at the College of France. Translated from the French by Eden and Cedar Paul. In two volumes. New York: The Macmillan Company, 1925. Price per set $14.

The first volume comprises three parts. Part I consists of a historical investigation into theories and practices which have played a notable rôle in the development of psychotherapeutics: miraculous and religious methods of treatment, including animal magnetism; philosophical methods of treatment, including Christian Science and its offshoots, the Emmanuel movement and the New Thought movement (Christian Science is regarded as a link between animal magnetism and some of the most modern methods of treatment by moralization) and the methods of Paul Dubois and others of moralization, reasoning, and persuasion. This method, which is today the most common and practical form of psychotherapeutics, recognizes the therapeutic power of thought, and forms an alliance between medicine and the church. Part 2 deals with the utilization of the patient's automatism, and concerns suggestion

and hypnotism. Part 3 considers the more recent methods of treatment: treatment by "rest" according to the teachings of Weir Mitchell; by the simplification of life (a form of treatment indispensable in neuropaths); by isolation; and by mental liquidation (readjustment). In the latter regard, consideration is given to traumatic memories and the sexual theory of the neuroses, including a discussion of Freudian psycho-analysis.

Volume 2 discusses treatment by education and re-education, and the different forms of excitation, embracing personal magnetism, New Thought, religious ceremonies, and a variety of social, professional, mental, and physical activities. Psychophysiologic methods of treatment include a discussion of the physiologic disorders related to neuroses; indirect and direct methods of treating neuroses; and stimulant substances, including alcohol. The chapter on moral guidance deals essentially with the various forms of guidance and their effect in the treatment of the neuropath, and conditions under which medical guidance occurs.

The work is a philosophical and masterly presentation of the subject of medical psychology, in which all phases of psychotherapy are considered. The historical portion is a scholarly presentation, embracing a phase in the history of medicine and of psychology.

In an analysis of the phenomena and the ideas underlying such terms as suggestion, hypnotism, mental disinfection, rest, isolation, the awakening of sensibility, excitation, etc., there is considerable psychologic explanation. Janet lays especial stress upon some concepts which he regards as peculiarly valuable in medical psychology: the notions of psychological strength and weakness, the notions of psychological tension and depression, and the influences which act upon them. The importance of these phenomena in the causation and treatment of neuropathic disorders is discussed in detail embracing psychological explanation.

The views of others are fully and impartially discussed. There are illustrative case histories, and the bibliography covers a large number of references. The book is undoubtedly a valuable and authoritative piece of work on the subject it covers.

DISEASES OF THE NEWBORN. By John A. Foote, M.D., Professor of Diseases of Children, Georgetown University Medical School. Including chapters by Prentiss Willson, M.D., James M. Moser, M.D., William F. O'Donnell, M.D., Frederick J. Eichenlaub, M.D., and John F. O'Brien, M.D., of the Faculty of Georgetown University Medical School. Illustrated. Philadelphia, London, and Montreal: J. B. Lippincott Company.

While, as stated in the preface, most if not all of the articles in this book have already been published elsewhere in various medical journals, there is no doubt that the idea of publishing such valuable material in one volume is a good one, as many will thus be able to read them all, and intelligently digest their relationship to each other, which would not otherwise be possible, no one physician probably taking all the medical journals that would be necessary in order to get these articles in that way.

The book is well illustrated, and the material, as a whole, thoroughly up-to-date and well expressed, as one would expect from such an array of prominent authors.

Chapter II on "Intracranial Hemorrhage in the Newborn" is well written, but it would seem that more reference should be made to the frequency of intracranial hemorrhage in infants delivered by cesarean section, in view of the number of infants so delivered who suffer from this condition, while high intra-uterine and low external pressure, as well as deficiency in oxidation and the presence of the cord around the neck might also be included as causative factors, all of these causes tending to confirm the author's statement on page 13 that "there is a hemorrhagic tendency in the newborn infant which does produce after-labor symptoms of hemorrhage of the brain."

It is to be regretted that in Chapter III on the "Care of the Newborn Child" the statement is made that the accoucheur "has the responsibility of a new life upon his shoulders," even although, at the present day, this be true. It is in just such articles as this that much missionary work could be done towards influencing accoucheurs to relinquish this responsibility in favor of the pediatrists, to whose offices many cases of rickets are later brought that could have been avoided had the pediatrist supervised the infant's feeding from birth, instead of this important function being handled, as is so often the case, by the accoucheur during the two weeks following delivery, and by relatives, friends, and neighbors for some weeks thereafter. This same subject is dealt with in Chapter XIV, in which the foregoing recommendation is advised, the statement being made that "the use of the newborn child for clinical teaching by the department of pediatrics should prevail in every university hospital."

In the paragraph on colic in infants in the same chapter, reference is made to the characteristic cry of this condition, and the statement is made that it is to be differentiated (aside from syphilis) only from the cry of undernourishment, while no reference is made to the cry of "overnourishment," which it is safe to say is sufficiently common to make it necessary to be considered in differentiation, particularly as overfeeding a baby is so frequently the result of an attempt to stop an already overfed baby from crying.

The statement in Chapter IV on "Problems of Breast Feeding" that seldom is a low quality (of breast milk) important if the quantity is sufficient" is, to say the least, very broad and somewhat doubtful, as many infants will thrive satisfactorily on a small or moderate quantity of a good-quality milk, with less digestive disturbance, than on a large quantity of poor-quality milk. The latter frequently flowing very freely, and, as a result, taken very hurriedly, digestive troubles naturally result.

In spite of the foregoing criticisms, and a few others of a similar nature to which attention could well be called, the book surely has a place in the pediatric literature of the day.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. Volume I, Thirty-sixth Series, 1926, 309 pages. J. B. Lippincott Company, Philadelphia and London.

This volume is profusely illustrated, always constituting a valuable adjunct to nearly every article on medical subjects. Reifenstein's article on "The Diagnosis and Treatment of Cardiac Arhythmias," is well balanced. Jourda of France has a thoughtful article on "Blood Dilution in the Pathology and Treatment of Attacks of Gout." Thirty pages are devoted to four articles on electrotherapeutics and physiotherapy which are timely. N. B. Gwyn devotes twenty-seven pages to a comprehensive review of the important subject, "Massive Pulmonary Collapse of the Lungs," and adds the history of some cases personally seen by him. Edmund Horgan of Washington, has a very thoughtful article on "Diagnosis and Treatment of Acute Superficial Circumscribed Abscess." Charles Nassau's "Surgical Treatment of Gastric and Duodenal Ulcers" brings out some innovations practiced by the author, and a page is given to postoperative treatment of these conditions. Fifteen pages of case histories from the surgical clinic of the Broad Street Hospital, New York, make interesting reading. The Progress of Medicine for 1925, collated by the Editor and Maj. J. F. Coupal, M.C., U. S. A., Washington, gives a comprehensive survey in concise form covering sixty-seven pages of very interesting reading.

On the whole, the subject matter of the entire volume is well balanced, and maintains the high standard of this publication.

THE THERAPY OF PUERPERAL FEVER. By Privatdozent Robert Koehler, M.D., Vienna, Austria. American Edition prepared by Hugo Ehrenfest, M.D., F.A.C.S. Octavo of 276 pages with 27 illustrations. St. Louis: C. V. Mosby Company, 1925. Price, $4.00.

Notwithstanding all that has been said and done about reducing morbidity and mortality in obstetric practice, it is a well-known fact that they are just as high today as they were before the days of Pasteur and Lister. It is a lamentable fact, but true. In some communities the death rate from puerperal septicemia shows an actnal increase. How many more patients were reported as dying from pneumonia, eclampsia, acute cardiac dilatation, etc., when the real cause was puerperal sepsis, never will be known. While every effort should be exerted to reduce to a minimum the occurrence, still we must bear in mind the need for appropriate treatment when puerperal sepsis occurs.

It is with these thoughts in mind that Dr. Ehrenfest consented to prepare an American Edition of Dr. Koehler's monograph. Dr. Ehrenfest states in the preface: "To my best knowledge, no work dealing specifically with the problem of puerperal infection has been presented to the English-speaking physicians within the last fifteen years." There is no gainsaying that there is a distinct need for this volume, and the American profession is indebted to Dr. Ehrenfest for his labors in this vineyard.

In the chapters on prophylaxis is the statement: "I cannot hesitate to express it as my belief that some of the modern obstetric clinics certainly go too far in the matter of prophylaxis." It is obvious that the more complicated the technic, the greater the chances of possible dangers.

The author concludes as follows: "A rational therapy of puerperal fever is seemingly still an unsolved problem. Only a relatively small percentage of these unfortunate women actually recover, and if we are willing to be truthful to ourselves, we must admit our therapy aids but little in the happy outcome." Little hope can be placed in operative interference. It is considered that "the future chances of medicinal treatment and especially of chemotherapy seem somewhat better."

To reiterate—prevention is the keynote. Always wear rubber gloves.

This book should be carefully read, digested, and the lessons taught put into practical application by every physician who attends a patient in labor. It is recommended to the profession.

INTRAVENOUS THERAPY. By Walton Forest Dutton, M.D. Illustrated with 64 half-tones and line engravings, some in colors. Second revised and enlarged edition. Philadelphia: F. A. Davis Company, Publishers, 1925. Price, $6.00 net.

Dr. Dutton speaks authoritatively upon this important subject, based upon a very extensive experience. In the preface of this, the second edition, he justly states: "It is with much regret that I must call attention to the fact that much of the first edition has been appropriated without credit by certain commercial firms and unethical physicians. This is unfortunate, because it is manifestly unfair to the author and also calculated to cause distrust among physicians of honor and integrity, who naturally, in making use of any of these procedures, wish all the associated facts available for reference." Every physician has had ample evidence of the truth of this statement, by the overwhelming amount of literature that floods his mail from commercial houses.

Intravenous therapy occupies an exceedingly important place in modern treatment, which will increase in value and frequency as clinical experience unfolds its extended indications. "It is absolutely essential for the physician to know the therapeutic and physiologic effect of the medicament used intravenously, as by any other method. A knowledge of biochemistry and mastery of technic are also necessary to successful treatment by this method." This quotation is especially called to the attention of the physician who has little or no knowledge of intravenous therapy.

The up-to-date physician no longer is content with writing a prescription or dispensing medication. He must realize the indications for intravenous therapy, and be prepared to give it. If he does not, he is not doing full justice in his ministration to the patient. If he fails to do so, because incompetent, then he should learn the technic or refer the patient to one who is competent to carry out this procedure.

This volume is strongly recommended, as it so ably covers the field of intravenous therapy.

BACTERIOLOGY AND APPLIED IMMUNOLOGY FOR NURSES. By Robert A. Kilduffe, M.D., Director of Laboratories, Atlantic City Hospital, etc. Cloth, price $2.00. Pp. 252, with 79 illustrations. Milwaukee, Wis.: Bruce Publishing Co., 1926.

In the introduction, the author has outlined the purpose of the work: (1) To give the nurse a practical knowledge of applied bacteriology, to train her to recognize the source of disease and to understand the practical ways and means of preventing its spread. (2) To present immunology in such a way that it can also be applied in the understanding of the methods of laboratory diagnosis, the treatment, and the prevention of disease. (3) To outline the proper procedures for the reception, preservation, and handling of specimens to be examined at the laboratory. (4) To give the nurse sufficient theoretical instruction to develop her own basic principles, as well as to act as an exponent of medical education in the instruction of the public. The author, we believe, achieves his ambitions in the simple, clear, and concise presentation of his topics.

It is to be noted that the author has taken a stand midway between the extremists in nurse education. He has shown the true value of the hospital laboratory to the nurse without creating lopsidedness due to excessively technical or ultrapractical teaching. All subject matter of use in its direct application to scientific nursing is duly stressed, however, so that the pupil is not insufficiently informed. The subject exposition is very clear, readable, and quite refreshing when compared to not a few of the texts on bacteriology and hygiene for nurses which sometimes are far too detailed and extensive to be of use in the busy hospital's nurse school.

A few minor discrepancies have crept into the little volume, probably due to briefness in phrasing. The work will be of decided value in the nurses' curriculum, especially where the pathologist himself gives the course in bacteriology, immunology, and preventive medicine. The presentation of the course as outlined in the book, supplemented with practical work actually performed in the hospital's clinical laboratory and not in the nurses' lecture room, would be ideal and fruitful.

POTTER'S THERAPEUTICS, MATERIA MEDICA AND PHARMACY, fourteenth edition, as revised by R. J. E. Scott, M.A., B.C.L., M.D. Cloth, 972 pages, including a valuable appendix. P. Blakiston's Son & Co., Philadelphia, Pa.

Dr. Samuel O. L. Potter wrote a very acceptable work and ran it through twelve editions. It remained a monument to his industry for about thirty years, serving well the needs of the profession. Dr. Elmer H. Funk gave the thirteenth edition extensive revision, though still adhering to the original plan of the work. The present, fourteenth, edition conforms to the U. S. P. X. A reasonable amount of revision, deletion, and addition to the text is notable as to its accuracy, but the work is not in any sense rewritten. A much more complete revision would have added to the value of the text.

The present reviewer may be pardoned for expressing the view that the original plan of the book no longer serves the purpose of the profession. To give, as in

(Continued on page xiv.)

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TOXEMIAS OF PREGNANCY*

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WORCESTER, MASS.

It is generally agreed that eclampsia, the most serious phase of toxemia of pregnancy, may be prevented but the incidence of toxemia of pregnancy can not be prevented.

Prenatal care has done much to safeguard the pregnant woman and her offspring. It is possible today to observe the progress of the disease and in many cases to hold it in check long enough to bring about a successful outcome. However, the disease still continues to arise in spite of the most careful prenatal care, and often goes on unabated in spite of the most intensive treatment. The treatment of both conditions is still the subject of endless discussion. The mortality and morbidity rate still remains alarmingly high.

It is plain from this statement that a more exact knowledge of the etiologic factors involved must be worked out before success in the prevention and treatment of this disease is atttained.

Early in 1917 my interest in the etiology of toxemia of pregnancy was stimulated by a primipara, aged 33, who developed a toxemia of such a serious character at the seventh month that I felt it was advisable to terminate the pregnancy with loss of the baby. The peculiar feature of this case was the absence of any previous illness in her history. She had been entirely free from the usual diseases of childhood. It seemed quite unreasonable that a perfectly healthy woman should not be able to carry her baby to full term without harm to herself. Associated with the rise of her toxic condition, she complained of a severe neuralgic pain in her right arm and neck, and the dropping of mucus in the back of her throat. Following delivery, her blood pressure returned to normal, and the urine became clear of albumin. Five months after delivery her blood pressure, which had been gradually rising, reached 160. At this time she complained of an abscess in the gums above a gold-crowned tooth. Examination showed a large apical abscess which involved the antrum on the right side.

Believing that the neuralgic pain and catarrhal condition were due to the abscessed tooth, the association of these symptoms with the progress of the toxemia made me wonder whether the toxemia itself might not be due to the activity of this chronic focus of infection. Subsequent observations have convinced me that foci of chronic infection are always to be found in association with toxemia of pregnancy and eclampsia. This statement is supported by the reports of LaVake,[1] of Minneapolis, and Fowler,[2] of Oklahoma City. The former reported 12 cases of eclampsia, and the latter 29 cases of toxemia in association with foci of chronic infection.

The constant association of foci of chronic infection with toxemia of pregnancy does not in itself imply an etiologic relationship. There is evidence available, however, which suggests that toxemia of pregnancy is not only an infectious disease but that there is an etiologic relationship between these foci of chronic infection and the disease. It is my purpose in this paper to consider this disease from this point of view, and to present to you the observations of others as well as my own which have convinced me that toxemia of pregnancy is primarily due to bacterial invasion of the organs of the pregnant woman, and that the source of such invasion, that is, the primary point of entrance, is to be found in foci of chronic infection in the teeth, tonsils, or elsewhere.

The following are some of the points which suggest that toxemia of pregnancy is an infectious disease:

First, there is a distinct seasonal increase in incidence during the winter and spring months, when other infectious diseases are more prevalent.[3]

Second, an apparent epidemic form has been noted in the past. During the years 1918, 1919, and 1920 an increase in the number of cases was noted by Kosmak, and the suggestion was made that this increase might have some relation to the influenza epidemic. The increase in incidence in the years above noted was also apparent in my own experience.[4]

*Read before the General Meeting of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

Third, there is the association of a considerable degree of fever with this disease. This has been shown by Kellogg of Boston, who found, in an analysis of 400 cases, that 2½ per cent of nontoxic cases, 14 per cent of toxic cases, and 25 per cent of eclamptic cases showed fever regardless of the method of delivery. De Lee has called attention to the fact that most eclamptics who die show a high degree of fever.[5]

Fourth, it is well recognized that an acute infection will frequently just precede and seem to precipitate the onset of a toxemia of pregnancy. In this connection, it has been my observation that neuralgias in the head, neck, shoulders, or arms are not infrequently associated with the onset and progress of a toxemia. It is my interpretation that these neuralgias represent the symptoms of the acute exacerbation of some focus of chronic infection, and are therefore exactly analogous to the symptoms of the acute infection. In both cases we are dealing with a focus of active infection. The importance of neuralgias as a part of the picture of toxemia of pregnancy is shown by their enumeration among the symptoms of toxemia of pregnancy in the textbooks on obstetrics.[6] Do not understand, however, that I imply that every acute exacerbation of a chronic focus will cause neuralgia or toxemia, or that every toxemia of pregnancy is associated with acute infection or neuralgia. There is, however, a fairly frequent clinical sequence here to be observed.

Fifth, several investigators, Doleris, Blanc, Favre, Gley, and Warnekros, have found a variety of bacteria in the blood of toxic patients.[7] Stroganoff has suggested that the bacteria gain entrance through the lungs. Albert and Miller believe that the source of the infection is to be found in the genitals. DeLee[8] has sought to find bacteria in the placental infarct, and succeeded in isolating a staphylococcus in one case.

Although all these facts are suggestive, and increase the possible relationship of the associated foci of chronic infection with the disease, the findings are not sufficiently consistent to establish definite proof. It has been my endeavor to make additional observations which will help to explain this possible etiologic relationship.

We know that the bacteria which cause all acute infectious disease must first have a point of entrance. Systemic damage takes place when the invading bacteria migrate to more vital parts of the body. Migration takes place in three ways, by the blood stream, by the lymphatics, and by direct extension. Some diseases are apparently the result of toxins elaborated by the bacteria at the point of entrance which seem to have a special affinity for certain tissues remote from the primary focus.

Systemic disease due to foci of chronic infection is the result of the same sequence of events. No systemic disease results unless the bacteria or their toxins confined in the foci of chronic infection migrate to more vital organs of the body. No symptoms result from this migration unless the damage done to the organ or organs attacked is sufficient to incapacitate it partially or completely. Symptoms of the early progress of such a systemic disease is not, therefore, a necessary sequence from the presence of a focus of infection, either acute or chronic.

Since toxemia of pregnancy is a systemic disease, the problem before us raises as the first question: Is there any evidence of the hematogenous spread of bacteria in the system during this disease process? The positive blood cultures above referred to would imply that there is such evidence.

The placenta, which is a removable organ and which has been bathed by the maternal blood stream, assumes a position of great importance in this problem. It is upon this organ that I have made observations which have convinced me that many placental infarcts are due to hematogenous infection of the maternal blood vessels of the placental site.

These observations depend primarily upon the conception that a normal placenta enlarges concentrically by proliferation of tissue on its edge. This method of enlargement is in addition to the enlargement which takes place as a result of proliferation throughout the placenta within the edge. The usual rounded shape of the placenta is partly dependent upon the expansion of the surface of the uterus upon which it is growing. There is evidence, however, to show that the area of the placenta at full term is not entirely dependent upon and limited to the expansion of the uterine surface beneath the placenta. This is shown by the three following examples: first, the placenta in association with hydramnios, when the expansion of the uterus is greatest, is not abnormally large; second, the placenta associated with complete placenta prævia is most typically the placenta with the largest area, and this placenta develops in the lower uterine segment, where expansion of the uterus is the least; third, the placenta in abdominal pregnancies does not have an expanding surface on which to grow. It is, therefore, probably true that the placenta does grow over the surface of the uterus to some extent by proliferation of tissue on the edge. This method of growth is more marked in the battledore type of placenta. It is my conception, therefore, that the normal pla-

centa is the one with the cord attached to the center of the circle made by the circumference of the placenta.

Should any injury occur to an area on the proliferating edge of the placenta in the first month of pregnancy, such an injury would inhibit or prevent further development at that point. Compensatory growth would occur on the uninjured edge to supply the needs of the growing fetus. The cord of such a placenta would, therefore, be attached very near the edge, and the placenta would be of the typical battledore type at full term.

By this deduction it is apparent that the distance from the infarct or injury to the base of the cord, when the injury is on the edge of the placenta, gives a reasonable estimate as to the time in the pregnancy when such injury originated. This distance is not absolutely definite, because the injury may not affect the tissue between the edge and the cord. The continued growth of the tissue between the injured edge and the point of cord attachment, as the placenta continues to develop, varies according to the amount this area between the cord and the edge has been inhibited by the injury. Injuries occurring within the first two months, when the placenta is small, show more consistent measurements than injuries later in pregnancy. My observations to date tend to show that when the injury to the edge occurs not later than two months menstrual time, the cord is not over one and one half inches from the edge. The timing of injuries in the latter part of pregnancy is more difficult, but may be estimated by studying the appearance and course of the blood vessels on the fetal surface of the placenta, the amount of indentation on the edge of the placenta, and the amount of distortion in the shape of the placenta.

It is conversely true that a placenta which has the cord attached at or near the edge is the result of some early injury to the placental edge. This statement is supported by the fact that the placental edge nearest the cord attachment generally presents evidence of damage by the presence of white infarction or an absence of active blood vessels on the fetal surface of the damaged tissues.

By applying this conception of the development of the placenta, it is possible to associate damaged areas on the edge of the placenta with certain clinical events during the pregnancy. For instance, blood coming from the placental site must involve the edge of the placenta. Such a lesion would probably cause damage to the proliferating tissue of the edge, and inhibit further growth. I have observed more than fifty cases in which a bleeding spell was recorded upon the placenta by contemporaneous white infarction on the edge or cessation of growth. I have had two cases of bleeding which were not recorded. In both of these cases the blood lost did not cause a stain larger than a silver dollar, and both occurred during the period when the ovum is completely covered with villi. The bleeding in these two cases may not have come from the placental site.

Pathologists[9] have shown that most white infarcts are the end results of an earlier hemorrhagic lesion which has passed through the stages of thrombosis and coagulation necrosis. It is extremely probable, and the above observations confirm this assertion, that bleeding during pregnancy is due to an early hemorrhagic lesion in the maternal blood vessels of the placental site, and that this lesion causes in the placenta a thrombotic lesion on the fetal side of the villous membrane which results in the white infarct. Young[10] of Edinburgh has succeeded in causing infarcts in the placenta by thrombosing the maternal blood vessels of the placental site.

The pathologists[9] have also pointed out that in most infarcted placentas, lesions in various stages of development may be found. This fact shows that the cause of the primary hemorrhagic lesion is localized and equally recurrent throughout the duration of the pregnancy.

While making these observations that a bleeding spell was recorded on the placenta by a contemporaneous white infarct, it was also observed that many of these attacks of bleeding were associated with demonstrable acute infection in the mouth and throat. This sequence of bleeding preceded or accompanied by acute infection, is, I believe, much more frequent than is realized. It is much more apparent in private practice than in ward work, because in the former, the cases are seen earlier, when the patient's memory is more dependable as to the early events in her pregnancy and their sequence. Too many bleeding spells and uninduced miscarriages are today attributed to some trivial trauma. A careful history will often reveal evidence of some recent infection.

Besides these observations, I have noticed that acute infections are not infrequently recorded on the edge of the placenta by white infarcts or cessation of growth. Of more than sixty cases observed, two are of especial interest. One was a case of lobar pneumonia at the fourth month which fortunately went on to full term, and the other was a case of an acute alveolar abscess which was the only pathological event occurring during the pregnancy.

Our experiences in the influenza epidemic may

be cited to support strongly the etiologic relation between infection and bleeding, with or without miscarriage.

These clinical observations suggest that the acute infection causes the bleeding from the placental site, and that the white infarct on the edge of the placenta is the end result of this pathological lesion.

If the bleeding is caused by the acute infection, as this clinical sequence suggests, is the lesion the result of toxins or the result of hematogenous infection of the maternal blood vessels of the placental site? The localized character of the lesion, the white infarct on the edge of the placenta, is more suggestive of the latter view. I have found, however, what I believe to be more convincing evidence.

A case reported by Cornell and Earle[11] of Chicago shows that bacteria are actually present in the uterine tissues beneath the placenta. In this case, through a very unusual set of circumstances, a hysterectomy was done on a two-months-pregnant uterus just following a bleeding spell. In the history of this case it was stated that the patient had been suffering from a chronic cold, beginning four weeks previous to the bleeding. A thorough histologic examination was made of this specimen with the placenta *in situ*. In the uterine tissue beneath the placenta were found many minute abscesses. Small hemorrhagic lesions with thrombosis were also observed. Of course, in this case, white infarction had not had time to develop.

There is another case reported by W. J. Thompson,[12] of Baltimore, in which a hysterectomy was done on a full-term pregnancy in a case of complete placenta prævia with a dead baby. In this case, the placenta was examined *in situ*. The report states that the placenta showed much white infarction, and there were miliary abscesses found in the uterine tissues beneath the placenta.

These are the only two cases I have been able to find in which microscopic examination of placentas *in situ* was reported. Both of these reports speak of miliary abscesses in the uterine tissues beneath the placenta.

It seems to me justified to make the deduction from this evidence that many placental infarcts are evidence of blood-borne infection from the point of entrance in the head to the uterine tissues immediately beneath the placenta.

It must be granted, as well, that every hemorrhagic lesion in the placental site need not cause external bleeding, and that bacteria may migrate from silent foci of chronic infection without giving outward evidences of the fact. It is, therefore, a justified conclusion that many infarcts may be formed in the placenta without giving any outward evidence of their formation.

Although I do not go so far as to say that all placental infarcts are due to hematogenous infection of the placental site, yet I do believe that most of them are the result of blood-borne infection in the mother. This statement is consistent with the extreme frequency with which foci of chronic infection and acute infections are found in association with pregnancy. It is also consistent with the incidence of associated pathology in the fetus and mother which can be attributed to this principle of blood-borne infection, as we shall see later.

If this evidence of blood-borne infection is accepted, it is possible to divide the pathology and symptoms of toxemia of pregnancy into two parts: first, the damage to the organs of the mother and resulting symptoms; second, the damage to the placenta and fetus and resulting symptoms.

Before going more fully into the evidence which makes this division of the disease reasonable, I wish to explain more carefully the characteristics of the type of blood-borne infection which is referred to.

The evidence suggests that it is not a septicemia or bacteremia, but is more like a pyemia or the repeated escape of small emboli of bacteria from the primary focus or point of entrance into the blood stream. This is particularly true of the type which comes from foci in the teeth. Consider, for the moment, the infected tooth with a pus sac on its apex. Many of these teeth are slightly loose in the socket. Not all of them, however. With the repeated trauma on this pus sac, resulting from the chewing of food, is it not reasonable to suppose that this trauma may occasionally exert enough pressure to break the tissues of the sac sufficiently to allow the escape of a few bacteria into the blood stream? Nothing happens as a result unless these bacteria again gain entrance to the tissues of some organ. Nothing will happen then unless the tissue invaded provides suitable food material for the subsequent growth of these migrating bacteria. No symptoms will result even then if the organ invaded conquers the attacking bacteria before sufficient damage results partially to incapacitate the organ.

The trauma associated with the act of swallowing food will likewise account for the occasional escape of small quantities of bacteria from the chronically infected tonsil.

The evidence that such a type of blood-borne infection is a reality is shown by the single hematogenous boil, the unilateral hematogenous pyelitis, and many other examples in general

medicine. It is shown specifically in the localized character of the placental infarct, and its repetition is shown by the finding of infarcts in different stages of development in the same placenta.

Another point of importance in association with this type of blood-borne infection is the low grade of virulence which characterizes most of the bacteria in foci of chronic infection. This characteristic may be due to the bacteria themselves or to an acquired resistence to those organisms by the organs of the mother.

With this conception of the process which is going on in the pregnant woman, it is possible to understand why every woman who harbors foci of chronic infection does not have toxemia of pregnancy and the associated pathology. It is also easy to explain why such units as antepartum hemorrhage are so often associated with the symptoms of toxemia of pregnancy, and yet are not always associated. For instance, the blood-borne infection may cause a lesion, limited to the placenta, sufficient to cause a marked hemorrhage. Such an event may be frequently associated with toxemia, because the toxemia in the mother is due to a similar process. In the latter case, the organs of the mother have been attacked by previous or concurrent blood-borne infection.

There are many such units which are often associated with toxemia, but which may occur independently. Among these units I should class many uninduced miscarriages, some cases of placenta prævia, some cases of stillbirths and undernourished babies, deformed babies, hemorrhagic disease, and jaundice of the newborn. There is evidence to support the statement that all these units of pathology so often found in association with toxemia of pregnancy are the result of hematogenous infection of the maternal blood vessels of the placental site, with resulting damage to the placenta and fetus either by infarct formation or direct infection of the fetus. This evidence has appeared in some of my previous writings,[13] and I must refer you to them in order to get on with the explanation which I wish to offer as to the method by which blood-borne infection may cause the symptoms and pathology of toxemia of pregnancy.

Recognition of the evidence which the infarcted placenta displays of repeated blood-borne infection throughout the pregnancy is vital to the theory which I wish to advance as to the cause of toxemia of pregnancy and eclampsia. It must be admitted that if the placenta is receiving repeated damages from blood-borne infection, the other organs of the body must also be similarly affected. If this be true, the question so often put to me immediately arises: Why are the symptoms which go to make up the entity of toxemia of pregnancy limited to the pregnant state? My answer to this question is that these symptoms are not limited to the pregnant state. It has been well stated that there are no symptoms of toxemia of pregnancy which do not occur in chronic nephritis. It is my conception that the symptoms which make up toxemia of pregnancy are precipitated within a comparatively short time by the disarrangement of the equilibrium between the organs of metabolism while under the ascending strain of a developing pregnancy. In chronc nephritis, this disarrangement is slower because the organs of metabolism have not already had their reserve power exhausted.

Pregnancy must be regarded as the most severe physiological-function test which the human system has to endure. Every metabolic organ in the maternal body is called into play. This call is necessarily in addition to the ordinary demand on those organs which have to do with maintaining the life of the individual. The demand of the growing fetus may be considered a great mobilizer of every organ which has to do with supplying those chemical compounds which go to the building of the new individual. The whole system of the woman is therefore undergoing a constantly increasing strain, and the reserve power of all her metabolic organs is thereby reduced. It is my conception that every metabolic organ is in a state of interrelation or balance with the other organs, and that this balance is in part maintained by the sympathetic nervous system. This system is also under stress, and part of its reserve power is exhausted by the increase in physiologic activity.

Under such conditions of stress, any disturbance which impairs the functional capacity of one or more organs of metabolism, such as an invasion of bacteria, will result in a further increase in nerve stimuli over the sympathetic nervous system in its endeavor to maintain metabolic equilibrium.

This increase in metabolic nerve stimuli passing over the sympathetic system may be used to explain the source of some of the symptoms which characterize toxemia of pregnancy.

The gradual rise of the blood pressure may be the result of a narrowing of the peripheral bed of the blood stream by an increase in tone, a spasticity, in the smooth muscles of the arterioles which are under the control of the sympathetic nervous system. Just as the voluntary muscles become tense from overstimulation, so may the smooth muscles of the body respond to overstimulation of the sympathetic nerves.

Constipation so commonly associated with this

disease, may be due to a similar spasticity and resulting lack of mobility which has its origin in the increased tone of the muscle coats of the intestine.

Partial failure of elimination by the kidneys may result from a direct attack by the blood-borne bacteria or by a disturbance of function. With limitation of the function of the kidneys, the stress upon the metabolic equilibrium becomes increasingly severe, and there arises, as a final stage of the disease, a situation where the total amount of metabolic nerve stimuli over the sympathetic system is sufficient to overcome the nerve synapse which separates the motor nervous system from the sympathetic system. A sudden discharge of nerve stimuli from the sympathetic system along the motor area follows, and the well-known convulsion is the result.

It is this conception of the factors involved that I would offer to explain why the symptoms of toxemia of pregnancy are precipitated so dramatically during the progress of a pregnancy. There is no other condition which places the human system under so much stress. It is, therefore, the burden of the pregnancy plus the disturbance in the equilibrium of the organs of metabolism which precipitates the symptoms of toxemia during a pregnancy. Each of the symptoms of toxemia may be explained on the basis of this conception. The headaches, the edema, the disturbances of vision, and many of the minor symptoms are all secondary manifestations dependent upon this disturbance of metabolic equilibrium, and reflected through the sympathetic nervous system.

The review of the pathology of this disease by Kosmak[14] shows that there is one type of lesion which is universal in all the organs attacked in this disease. This lesion is described as a minute hemorrhage found in the liver, kidneys, brain, heart, pericardium, pleura, and skin. It is my belief that this hemorrhagic lesion is the characteristic primary lesion in each organ attacked. The subsequent damage to the tissue of each organ may vary in character according to the tissue involved. Thrombosis, which is also usually present, represents nature's endeavor to stop the escape of blood into the tissues. In this connection, the increase in the clotting power of the blood so often noted in toxemia of pregnancy may be in response to the generalized attack upon the system by this hemorrhagic lesion.

I cannot present to you definite evidence to support the proposition that this small hemorrhagic lesion which is scattered throughout the body of the toxic case is due to blood-borne infection, but the likeness between this lesion and the small hemorrhagic lesions in the maternal blood vessels beneath the placenta seems to me to be of the greatest importance. In the latter case, I have submitted evidence that they are due to hematogenous infection, and by analogy it seems to me probable that the former are also of infectious origin.

Suggestive evidence in support of this view is presented in the occasional positive blood cultures which have been found in toxic cases. In addition to this, a streptococcus was recovered from the liver of an eclamptic at autopsy at Memorial Hospital in 1923. This was the last opportunity I have had to study this phase of the problem. Sections stained for the purpose of demonstrating bacteria in the tissue of the liver were reported negative, however. In spite of this negative evidence, the presence of a streptococcus in the liver, and not in the heart's blood, taken together with the other evidence, makes me feel hopeful that further search will be rewarded by success.

In closing, I wish to speak of the treatment of toxemia of pregnancy on the basis that chronic infection is the primary etiologic factor.

The treatment of toxemia of pregnancy by the removal of foci of infection in the presence of the disease is disappointing. So often it is found that there is not just one focus to be removed but many, and it is necessary to remove all foci to get good results. Not infrequently this involves removing the tonsils as well as several teeth. Such a procedure is attended with danger. In some cases, the removal of infected teeth has given good results. In others, it has resulted in a marked aggravation of the symptoms. The same is true of the removal of infected tonsils. I recall one patient who had three infected teeth removed six months after a toxic pregnancy. Her blood pressure rose over 200 and she became very edematous and blind for a period of two weeks. I firmly believe it is best to avoid doing anything that is likely to change chronic infection to a more active state in the presence of an existing toxemia.

In the field of prevention, the removal of all foci of chronic infection before or between pregnancies has given excellent results. It has been my experience to observe that those patients who have no infected teeth and who have had their tonsils removed completely are always free from any symptoms or signs of toxemia of pregnancy.

SUMMARY

Toxemia of pregnancy is always associated with foci of chronic infection.

Several clinical characteristics of the disease suggest its infectious origin.

Blood-borne infection as a factor in the disease is shown by the occasional recovery of a variety of bacteria from the blood stream of the toxic patient, and by the evidence that many placental infarcts are due to blood-borne infection from a variety of sources.

The relation between the blood-borne infection and the foci of chronic infection is made probable by an increase in activity in these foci, evidenced by the association of neuralgias with the onset and progress of the toxemia.

There is evidence that many pathological units found in association with toxemia may also be due to blood-borne infection.

Treatment by the removal of foci of chronic infection in the presence of a toxemia is disappointing and dangerous.

Treatment by the removal of all foci of chronic infection either before or between pregnancies as a preventive measure gives good results.

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The Influence of Congenital and Hereditary Factors in Diseases of Adults*

A CLINICAL CONSIDERATION OF CONGENITAL HEART DISEASE

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During the past two years I have had the opportunity of studying the clinical and morphologic features of congenital heart disease with Dr. Maude E. Abbott, who, in a monograph upon this subject in Osler and McCrae's *System of Medicine*, and in her subsequent writings,[1] has done much to clarify our knowledge of this important subject. The following article represents a brief summary of our studies, and I take this opportunity to express my indebtedness for the generous manner in which Dr. Abbott has placed her material at my disposal.

That the subject of congenital heart disease has received scant attention from the general profession can be readily understood. The attitude has been that these cases are relatively few, they are difficult of analysis, and there is nothing to be done, so why bother about the differential diagnosis. But with one interested in cardiac disease, the problem arises quite frequently, and in the light of an elementary knowledge of the facts of development and of the anatomic structure of the normal heart, the apparent complexity of the subject vanishes. Precise diagnosis then assumes a new importance, for not only is it necessary to have a clear insight into the problem of cardiac defects in order to stand upon safe ground in the differential diagnosis of cardiac affections in general, but also because among congenital lesions we must differentiate between the typical cases of congenital cyanosis with the now familiar symptom-complex and gloomy prognosis, and a large and very important group with slight or latent symptomatology but distinctive physical signs, whose expectation of life is good if they are given that protective and preventive care so freely accorded to other "potential cardiacs."

To state this anatomically, we must understand that cardiac defects introduce a mechanical interference in the normal course of the circulation which may lead directly to undue strain upon parts not adapted to bear this, or may permit of an abnormal communication between the venous and arterial streams by means of which the oxygenation of arterial blood may be lessened. Such abnormal communications may be simple localized apertures between the right and left sides of the heart, or between the pulmonary artery and the aorta; or they may be such gross defects as to lead to actual deflection of the blood channel so that most of the volume of venous blood arriving at the heart may be injected into the arterial stream. In the case of localized apertures of communication, such as a hole in the ventricular septum, it seems clear that the blood flow through the abnormal opening will take place from the chamber in which the pres-

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sure is higher, into the side in which the pressure is lower. Therefore we have two groups of congenital cardiac lesions, presenting a very different clinical picture, according as venous blood passes into the arterial or arterial into the venous, the former presenting the true symptom complex of congenital cyanosis, and the latter an equally distinctive syndrome, with complete absence of cyanosis except as a transient or terminal feature. To these groups Abbott has applied the descriptive terms *venous-arterial* and *arterial-venous shunt*.

It is to the noncyanotic, or arterial-venous group, that your attention is particularly directed. A case in point may serve as an introduction to the subject:

W. M., a well-nourished and normal-looking boy of 8½ years, whom I saw through the kindness of Dr. S. Solis-Cohen, was brought to the office because in the course of a routine physical examination his physician had discovered a heart murmur and had informed the father that the boy had grave heart disease. His family history and past history were unimportant. He had been a normal infant, and had never suffered from a serious illness. The important findings in the physical examination were a marked thrill and a loud, harsh, systolic murmur in the third interspace to the left of the sternum. The murmur was transmitted to the left clavicle, and was well heard in the back. The x-ray showed an enlargement of the pulmonary artery, and the fluoroscope demonstrated vigorous pulsation in this area. The electrocardiogram showed the heart record of a child in vigorous health. He had no symptoms; there was no cyanosis and no clubbing of the fingers, and his exercise tolerance was excellent. I concluded, therefore, that the boy had a congenital lesion, probably a defect of the ventricular septum, and after reassuring the father, advised that because of cryptic tonsils and enlarged cervical glands, tonsillectomy should be done. This was later performed under ether anesthesia without the slightest difficulty, and the boy is leading a normal life today.

A general consideration of the group of disorders illustrated by this case may help us better to understand the individual lesions.

NONCYANOTIC GROUP

(Arterial-venous Shunt)

Passage of arterial blood from left to right into the venous stream takes place in communications between the pulmonary artery and the aorta (patent ductus arteriosus), and in uncomplicated localized defects of the interventricular or interauricular septum (patent foramen ovale) under the normal physiologic conditions of the circulation, in which the pressure is relatively higher on the systemic side. It is important to realize that under these conditions no cause for cyanosis is present. Arterial oxygenation is normal, and the pathologic factor at work is merely a slowly developing strain on the pulmonary circulation and right heart, from the presence of an increased volume of blood, which is evidenced by progressive dilatation, thickening and fibrosis or atheroma of the walls, and sometimes by the evidence of an infective process in the neighborhood of the defect. *Perhaps the greatest misconception in regard to congenital heart disease in the minds of the medical profession has been the association of cyanosis with this group of disorders.*

Individuals with such defects are likely to live on to adult life, but an important and significant feature of their condition is that a change of pressure in the lungs may convert the arterial-venous shunt into a venous-arterial one, with the resultant production of a transient or terminal cyanosis. This is especially true of interauricular septal defects. When such cyanosis appears late in life, it frequently persists with more or less constancy to the end, and may be termed cyanosis tardive.

Absence of symptoms and the presence of striking physical signs are the characteristic features of this group. A peculiar harsh murmur of unusual rhythm and intensity, often accompanied by a thrill, situated to the left of the sterum in the first or second interspace or over the middle of the precordium, and in many instances associated with evidences of dilatation of the pulmonary artery, are the most important features of this noncyanotic group. Dilatation of the pulmonary artery is to be considered as a functional consequence of the increased pressure produced by the connection between it and the aorta, or between the right and left chambers of the heart. Percussion evidence of Gerhardt's dullness, i.e., a ribbon-shaped area of dullness in the first and second interspace to the left of the sternum, probably representing the dilated pulmonary artery; an accentuation of the pulmonary second sound; and fluoroscopic and x-ray findings of a marked bulging of the pulmonary arc are the features which distinguish dilatation of the pulmonary artery in congenital heart disease.

Unless the defect has permitted unusual strain on the right side of the heart, so as to cause a preponderating hypertrophy of that side, the electrocardiogram is not particularly helpful in the diagnosis of this type of defect. Lewis states that in uncomplicated patency of the ductus arteriosus the curves should be normal, but he also mentions exaggerated amplitude in several leads of the electrocardiogram as an important sign of congenital heart disease.

Thus we see that the diagnosis of a defect belonging to this noncyanotic group is readily enough made, although there are occasional cases that are confusing. It is the differential diag-

nosis of the exact lesion that presents a more difficult problem.

Usually the defect is discovered in childhood by the family physician while attending for some unrelated condition. Sometimes it escapes attention until adult life, and is discovered during an examination for life insurance. Occasionally the individual himself becomes aware of its presence because of the loud murmur or intense thrill. Rarely, in early life, do heart symptoms lead to its discovery. These facts emphasize the functional integrity of the circulation under such circumstances; i.e., the usual freedom from symptoms. Too often the attending physician terrifies the family with the statement that such a child has grave heart disease, and the prediction that its years are numbered, basing his belief upon the loudness of the murmur and the intensity of the thrill; whereas in truth these are often associated with the least harmful defects, that is, those imposing the least strain upon the heart, such as a very small defect of the interventricular septum.

Given, then, (1) a young patient with (2) no history of rheumatic fever or other illnesses commonly causing endocarditis, (3) absent or slight heart symptoms, (4) marked and peculiar murmur and perhaps thrill in the upper left precordium, and (5) good cardiac functional capacity, and the diagnosis of a congenital defect of the heart, with arterial-venous shunt, is practically certain. In certain instances it is possible to differentiate the various defects of this group, particularly the three important ones; namely, patent foramen ovale, patent ductus arteriosus, and defect of the ventricular septum. This should interest us not merely because it presents a nice problem in differential diagnosis, but more importantly, because of the prognosis. The various defects impose different degrees of strain upon the heart, and are not uniformly subject to bacterial invasion.

The following case referred to us as an aneurysm, I believe to be patent ductus arteriosus:

N. G., a colored girl, aged 28, who was admitted to the Jefferson Hospital on the service of Dr. S. Solis-Cohen, February 24, 1925, complained of pain over the precordium, palpitation, dyspnea, headache, and dizziness. She had never enjoyed robust health, and was very subject to colds. She had measles, whooping cough, chickenpox, and mumps as a child, and later in life must have contracted syphilis, as the Wassermann was positive. Eight years ago she learned of her heart lesion, but only recently had she suffered from heart symptoms.

She is a thin, frail girl, without cyanosis and without clubbing. There is slight scoliosis and kyphosis. Examination of her heart shows a marked pulsation in the 2d, 3d, and 4th interspaces to the left of the sternum, and in the 2d left interspace is a pronounced continuous thrill and harsh "machinery" murmur with diastolic accentuation. The aortic second sound is clear and distinct, and the pulmonary second sound is heard loudly clapping in the midst of the murmur. The heart seems enlarged both to the right and left, and the fluoroscope demonstrates an unusual cardiac shadow with an actively pulsating, accentuated pulmonary arc. There is no throb in the episternal notch, and the pulses are equal.

The active pulsation, the unusual murmur and thrill, a positive Wassermann, and a peculiar heart shadow probably led to the diagnosis of aneurysm; but the long duration of heart signs (8 years) without symptoms, the distinct "machinery" murmur and the continuous thrill with definite localization, the normal aortic shadow and the pulmonary-artery dilatation as demonstrated by careful x-ray studies, convince us of the presence of a congenital defect, probably ductus arteriosus.

A week's rest resulted in marked improvement, and the girl is now working daily and feeling perfectly well.

CYANOTIC GROUP

(Venous-arterial Shunt)

A venous-arterial shunt may occur in several ways: (1) by direct right-left shunt through a localized septal defect when the pressure is higher in the right ventricle, as is the case in the presence of an associated pulmonary stenosis; (2) when direct admixture within the chamber occurs through complete absence of the cardiac or arterial septum; or (3) as in dextroposition of the aorta, with the mouth of the aorta overriding the right ventricle, venous blood passing directly from the right ventricle into the systemic aorta.

In all these cases the conditions are present for the development of a true congenital cyanosis, and when more than one cause is operative, as in the commonest member of this group, cyanosis is almost certain to occur.

The anomaly referred to is a form of pulmonary stenosis, which is probably the commonest of all cardiac defects and the type most familiar to the practitioner. It has been termed by the French "the tetralogy of Fallot," and consists of pulmonary stenosis, a defect of the ventricular septum at the base, and overriding (Rechtslage) of the aorta. Hypertrophy and dilatation of the right ventricle and auricle are constant, and make up the fourth anatomical finding of this anomaly. The following case is typical:

C. M., a white girl, aged 17, who was admitted to the tuberculosis wards of the Philadelphia General Hospital May 25, 1923, complained of hoarseness of about a year's duration. For the same period she had cough and expectoration, and on one occasion hemoptysis. She had always been a delicate girl, and friends had commented on the blueness of her lips and clubbing of the fingers. Other than the above points, her past history was unimportant, as was the family history.

On admission to the hospital, our interest was centered on the cardiac findings. The heart seemed enlarged both to the right and left, and a faint systolic thrill

was felt over the base to the left of the sternum. In this area was a very harsh systolic murmur transmitted upward to the clavicle and into the back. To aid us in the diagnosis of a congenital cardiac lesion were the long history of ill health, cyanosis aggravated by cough and exertion, clubbing of the toes and fingers, x-ray and electrocardiographic evidence of right-sided enlargement, and a blood count of hemoglobin 116 per cent, red blood cells 7,850,000, white blood cells 8,700, and differential count normal. We felt that the lesion was pulmonary stenosis, with probable ventricular defect.

Complicating this condition was advanced pulmonary tuberculosis and laryngeal edema, with ulceration of the cords, which accounted for the hoarseness. We thought that the latter was secondary to the pulmonary tuberculosis, but were not sure what part the heart played in producing the congestion and edema.

The patient's general condition remained fairly good most of the summer, but in August she grew gradually weaker and died.

A limited necropsy was performed. There was advanced pulmonary tuberculosis and laryngeal tuberculosis, and the heart showed pulmonary stenosis with a defect at the base of the ventricular septum and an overriding aorta.

The most typical instances of congenital cyanosis, with bluish discoloration of the skin, becoming pronounced upon exertion, clubbing of the fingers, dyspnea, and cyanotic attacks, are seen in the many cases in which pulmonary stenosis is combined with a defect of the ventricular septum and dextroposition of the aorta. In typical cases of pulmonary stenosis, enlargement of cardiac dullness to the right, precordial bulging, and epigastric and precordial pulsation indicate enlargement of the right heart. A thrill, localized to the 2d and 3d left interspaces, or diffused over the precordium, is fairly frequent. A prolonged harsh, rasping or blowing murmur heard over the whole cardia, but chiefly at the base, with its point of maximum intensity over the upper part of the sternum and the 2d left interspace, is present in the great majority of cases. The murmur is transmitted upward toward the clavicle, along the course of the pulmonary artery, and over the sternum, but is faint or inaudible at the apex and to the right of the sternum. It may be so loud as to be heard over the whole chest. In cases in which the septal defect is present, the murmur may be heard over the aortic area and along the carotids. The pulmonary second sound is weak or absent in most instances. *In patulous ductus arteriosus, pulmonary accentuation is the rule. In pulmonary stenosis it is the exception.*

In the majority of cases, the decided localization of the murmur and thrill, the increased cardiac dullness to the right, the absence of pulmonary accentuation, and the presence of distinctive symptoms of pronounced congenital cyanosis, such as blueness, clubbing, polycythemia, and splenomegaly, make the diagnosis fairly easy.

Such patients usually die in childhood, but many reach early adult life and die, not of the cardiac lesion, but of pulmonary tuberculosis. Another not infrequent termination is from bacterial endocarditis developing at the seat of the defect. The process is apt to run a rapid course, for the large fungoid vegetations break off and lodge in the lungs, there to produce a suppurative bronchopneumonia.

TREATMENT

Under the head of treatment there is really only one phase of the subject to be discussed, and that is the prophylactic care of those suffering from congenital defects. First, we must direct our attention to the arterial-venous or noncyanotic group, those cases with distinctive physical signs but excellent functional capacity. As already stated, their chances for a long and healthy life are good. *Two dangers exist: infection and strain.* Congenital defects belonging to this group (particularly patent ductus and ventricular septal defects) are notoriously subject to bacterial endocarditis. The bacteria, probably arising from a focus of infection around the teeth, in the tonsils, or in the nasal sinuses, are implanted along the edges of the defect and there flourish, to produce large fungoid vegetations which break off to form dangerous emboli. Death may occur from bronchopneumonia, or from the toxemia and exhaustion produced by the infection. Therefore, our first duty toward these unfortunate persons is to rid them of all sources of focal infections. Our second duty is to protect them from undue strain, which may convert an arterial-venous to a venous-arterial shunt, with resultant cyanosis and possibly dyspneic or suffocative attacks. Such strain may arise from great physical exertion from pneumonia or any other infection which would cause a rise of tension in the pulmonary circulation.

Before closing, I must repeat that prognosis in congenital heart disease does not depend so much upon the intensity or location of the murmur as it does upon the presence or absence of other symptoms. However, even in the presence of congenital defects with marked symptoms, we still must be hopeful, for it is often remarkable how long such patients may live and how much they may accomplish.

SUMMARY

(1) Congenital heart disease should receive more attention from the profession, not only because of its own importance, but because a knowledge of the subject is essential in the dif-

ferential diagnosis of cardiac affections in general.

(2) A satisfactory clinical classification divides the cases into noncyanotic and cyanotic groups, depending on whether the mechanical disturbance of the circulation produced by the defect leads to a shunt of blood from the arterial to the venous side, or from the venous to the arterial.

(3) The noncyanotic group is made up of three principal forms, patent foramen ovale, patent ductus arteriosus, and defect of the ventricular septum. All are characterized by latent or slight symptoms and distinct physical signs. A peculiar harsh murmur of unusual rhythm and intensity frequently accompanied by a thrill, situated in the left upper precordium and often associated with evidences of dilatation of the pulmonary artery, are the most important features of this group. It is often possible to distinguish the individual form that is present. Prognosis for life is good. The dangers to be guarded against are infection and strain.

(4) The principal cyanotic form of congenital heart disease is pulmonary stenosis, often associated with defect of the ventricular septum and dextro-position of the aorta. The symptoms are more important than the physical signs in diagnosis. Congenital cyanosis, clubbing of the fingers, polycythemia, dyspnea, and suffocative attacks, are the features of this group. Prognosis is not good, but adult life may be reached. Pulmonary tuberculosis and bacterial endocarditis are usually responsible for death.

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CONGENITAL AND HEREDITARY FACTORS IN ARTERIAL AND RENAL DISEASE

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The incidence of Bright's disease is appreciated when we are mindful of the statement of Christian[1] that nephritis as the cause of death is exceeded only by pulmonary tuberculosis and chronic heart disease. But, despite its prevalence and its chronicity, which produces great economic loss, there is no unanimity of opinion regarding its classification, and little more than presumption as to its etiology.

How true it is that, "so far as the individual patient with chronic nephritis is concerned, one can rarely do more than guess a cause."[2] When we say that certain types of chronic nephritis are caused by inadequate nutrition of the kidneys resulting from arterial disease, we have failed in our explanation, for the reason that the cause of the underlying arterial disease is omitted.

In the days of medicine, when the clinicians were recruited from the ranks of the pathologists, classifications were adopted which were based on gross morbid pathology. Hence, the large white kidney or the small red kidney. This left much to be desired, in that these designations were concerned more with the probable appearance of the affected organs postmortem than with their functional capacity antemortem.

The advent of the physiological chemist and the resulting present-day vogue of functional tests, particularly in their application to the kidneys, led to attempts at classification based on function. The ability or lack of ability of these organs to concentrate the urine on a known fluid intake, the amount of salt elimination on known chlorid intake, the degree of nitrogen retention, the elimination of phenolphthalein and indigocarmine, all of these and more are factors which must be taken into account if one is to formulate a grouping based on function. These estimations have helped enormously in the prognosis of renal disease, but have failed to establish an incontrovertible basis for classification.

The classification of Volhard and Fahr[3] is the one which has been most universally adopted, with certain modifications based on the opinion of each individual writer. They divide nephritis into three major types—the degenerative lesions (the nephroses), the inflammatory lesions (the nephritides), and the vascular lesions (the scleroses). McElroy,[4] in Tice's *Practice of Medicine*, uses this classification as a basis for the consideration of etiology, which can be briefly summarized. The nephroses may result from no discoverable cause, or it may be assumed that exposure to cold, continued high-protein diet, or heredity, may be causative factors. The known causes include the toxins of certain infections (notably tuberculosis, chronic suppuration, and malaria), certain endogenous poisons (particularly that which produces eclampsia), and the toxic action of certain metals.

The nephritides (glomerulonephritis) result chiefly from bacterial infection, especially streptococcic, most frequently in association with, or as the result of tonsillitis, scarlet fever, sepsis, erysipelas, rheumatic fever, endocarditis, and purpura. Heredity is stressed as another important cause.

The scleroses arise from factors which are assumed to produce arteriosclerosis: the mental and physical wear and tear of life; the metabolic

diseases, gout, obesity, and diabetes; the intoxicants, largely assumed to be causes, tea, coffee, alcohol, and tobacco; endogenous poisons, also assumed, particularly those derived from the gastro-intestinal tract; certain infections which perhaps play some rôle; and heredity.

An interesting classification has recently been published by Addis.[5] The only essential difference between his classification and that of Volhard and Fahr is that he uses the term hemorrhagic for the group which they call the inflammatory lesions. While their nomenclature is different, each uses his own term as synonymous with glomerulonephritis. Addis bases his clinical classification on careful, frequently repeated studies of the urine, collected under controlled conditions. These specimens are used for actually counting the numbers of red blood cells, renal epithelial cells, and tube casts. The outstanding and constant features of the cases belonging to the hemorrhagic group are the abnormal numbers of red blood cells and the constant presence of blood casts. The hemorrhagic type is caused chiefly by the streptococcus, the latent stage probably being due to continuance of focal streptococcic infection.

In this connection, it seems applicable to refer to the work of Haden,[6] which beautifully illustrates the part that focal infections may play in the production of renal lesions. He describes a patient suffering from acute pyelonephritis with dental infection. A culture obtained from the infected tooth was injected into two rabbits. One developed abscesses in the medulla of the kidney, the other an acute hemorrhagic nephritis.

Addis's second group includes the degenerative lesions (the nephroses), and according to him, the constant and prominent feature of this group is the presence in the urine of large numbers of epithelial cells in various stages of granular or fatty degeneration. The etiologic factors are in general the same as those of McElroy for this type. The same applies to his third group (the scleroses). It is of some importance that heredity is not specifically mentioned.

Heredity has long been recognized as a factor in the production of disease. Osler[7] many years ago drew the parallel between infection in tuberculosis and the parable of the sower, to illustrate the importance of the nature of the ground upon which the seed (the tubercle bacillus) falls. "Some fell among thorns and the thorns sprang up and choked them. But others fell on good ground and sprang up and bore fruit an hundredfold." And again, referring to arteriosclerosis, he said, "its onset depends in the first place upon the quality of arterial tissue (vital rubber) which the individual has inherited, and secondly on the amount of wear and tear to which he has subjected it."

Equal emphasis has been laid on heredity as an important etiologic factor in chronic renal disease. Kidd,[8] Eichhorst,[9] Meigs,[10] Herrick,[11] Weiss,[12] and others have recorded instances of arterial and renal disease occurring in many members of the same family; and Eason, Smith, and Buchanan[13] quote the genealogic trees of Hurst,[14] Pel,[15] and Dickinson[16] to illustrate the hereditary occurrence of these disorders, extending through three and four generations.

There are certain universally accepted causes of nephritis. Particularly is this true of streptococcic infections. But why do they occur so frequently without producing nephritis? On the other hand, when this disease occurs in the absence of infection or other accepted cause, the blame is put on "various poisons," or "some product of metabolism."

We should, I think, accept the opinion that with the exception of the known nephrotoxic substances such as uranium and mercury, which invariably produce nephritis, the other etiologic factors are usually contributory and secondary, and the fundamental and primary cause is the quality of tissue which the individual inherits. It is important not only to accept this thought in its broad application to disease in general, but to think of it in its application to each individual patient.

A case, illustrating familial arterial and renal disease, which came under personal observation is here briefly described. This case report with a complete autopsy protocol was previously published.[17] In this article it was stated that the patient was first observed at the stage of his illness when the clinical diagnosis was glomerulonephritis. Some members of his family have arterial disease; others have died of vascular catastrophes. Either nephritis alone, arterial disease alone, or both combined, as in this patient, would serve equally well as a text.

G. K., male, aged forty, married, was admitted to the University Hospital on March 27, 1924, complaining of weakness, pallor, and loss of weight. For the past five years he had been under treatment for high blood pressure, first observed incident to an examination for insurance. Two years before admission, studies of the blood and spinal fluid revealed negative Wassermann reactions. He appeared to be in reasonably good health until three months ago, when he began to complain of undue fatigue, loss of weight, and severe headaches, but was able to continue uninterruptedly with his work until five weeks ago, when more severe headache, greater weakness, and marked disturbance of vision were noted. At that time, without medical advice, he placed himself under the care of a physiotherapist, who treated him by drastic elimination, frequent cabinet sweat baths, and brisk saline purgation. Since the be-

ginning of this treatment he had rapidly grown weaker, and had been confined to bed for two weeks.

His previous history included scarlet fever in early childhood, carbuncle on the back four years before, no glycosuria. He stated specifically that he had never had rheumatic fever, chorea, or tonsillitis. He had used alcohol and tobacco in moderation, but denied venereal infection.

One sister had died at the age of forty-three. One year prior to her death, she was suddenly stricken with a right-sided hemiplegia.

Another sister, aged forty-five, had been under the care of Dr. C. B. Weinberg, of Atlantic City, who extended to me the courtesy of examining his patient. She had had hypertension for the past two years. Examination on April 10, 1924, revealed a systolic blood pressure of 210. Subsequently she had an apoplectic stroke.

A third sister, aged thirty-two, was under the care of Dr. I. Jesse Levy, of New York. She had been married for 13 years, and had 2 children who were living and well. She had had two miscarriages. She had never had scarlet fever. Following acute follicular tonsillitis at the age of fourteen she developed acute nephritis. There were no renal complications during pregnancy. Several years ago she was advised by her family physician that she had high blood pressure and "kidney trouble." Examination in April, 1924, revealed a systolic blood pressure of 180.

A brother, aged thirty, married, was examined in April, 1924. He appeared to be at least ten years older than his stated age. His systolic blood pressure was 146.

There were seven children in this family. The two not enumerated died at the ages of six months and three years, respectively, of unascertainable causes.

The father of these children died at the age of fifty, of pneumonia, having had diabetes for eleven years prior to his death. He had six brothers, all of whom were dead, and all of whom were said to have had diabetes. This fact was stated independently by each member of the family examined, but due in part to the fact that five of these deaths occurred in Europe, it cannot be substantiated.

The mother died at the age of sixty-three of apoplexy. She was the eldest of thirteen children. Eight died at birth or in infancy. One died at the age of 12, one at 28, causes of death unknown. One died at the age of fifty-three. She was said to have had locomotor ataxia. One was still living, whose whereabouts was unknown.

Physical examination showed a patient apparently gravely ill, apprehensive, restless, and irrational. He presented the picture of severe anemia. The peripheral vessels were moderately sclerosed. The heart was enlarged to the left, and there was marked accentuation of the second aortic sound. The lungs and abdomen were apparently normal. The reflexes were exaggerated.

The systolic blood pressure was 205; the diastolic, 125. The urine had a specific gravity of 1.009; there was a trace of albumin, but not sugar. On microscopic examination, numerous hyaline and pale granular casts and a few waxy casts were found. Blood count: hemoglobin 46 per cent; red blood cells 2,740,000; blood plasma carbon dioxid, 48 volumes per cent; blood Wassermann negative. The phenolsulphonephthalein test gave no elimination in two hours; the blood urea nitrogen, 102 mg. per 100 c.c.

Eye examination (Dr. B. F. Baer, Jr.) showed "General retinal edema, veins full, arteries reduced and extremely tortuous. Eye-grounds bespattered with hemorrhages and areas of degeneration."

The patient rapidly became uremic, the blood urea nitrogen reaching 204 mg. four days prior to death. The urinary output at no time was greatly reduced below the fluid intake. On April 3, 1924, the patient had numerous convulsions and became stuporous. Bronchial pneumonia developed, and death ensued in uremic coma on April 7, 1924.

At necropsy, the kidneys were of equal size and normal weight, indicating that this case was not one of congenital renal hypoplasia.

Dr. Allen J. Smith[18] expressed the opinion that although clinically the case might be classified as chronic glomerulonephritis, it probably was not due to infection, as the glomerular changes were not sufficiently generalized. He stated that the fault did not appear to be primarily within the arteries themselves, because, were such the case, the glomeruli in any given area would be atrophied and replaced by scar tissue. This did not occur. He believed that the underlying fault was in the growth of connective tissue around the blood vessels, mechanically interfering with their blood supply. This process is identical with that which in its early stage is recognized as benign hypertension with secondary changes in the glomeruli due to perivascular fibrosis. There was sufficient cloudy swelling and fatty infiltration present in the liver to be a factor in the production of uremia.

This is in accord with our opinion that the glomerulonephritis in this patient was not due to scarlet fever in early life. It favors the view that the fault was fundamentally that of perivascular pathology, which is entirely in accord with the remarkable frequency of arterial and secondary renal disease in this family. It leaves little doubt that the cause of death of this patient, the death of his forebears, the vascular and renal lesions of his family, and the probable similar fate of some of their offspring is due, in the words of Oliver Wendell Holmes, "to their inability to choose their ancestors."

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ABERRANT THYROIDS*

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In an attempt to discuss any problem which deals with the endocrine system one finds it difficult to restrict one's self to a single ductless gland; one cannot even dispense with the nervous system, for as is well recognized, the interrelationship of many factors seems to be the keynote of our appreciation of endocrine disease. Realizing, however, the extent of the subject, and that thyroid disease is no exception to this rule, this paper will present only a few brief facts relative to certain developmental abnormalities of the thyroid gland, and in particular the question of aberrant thyroids.

In dealing with any aspect of the thyroid problem, it is well to emphasize one salient point at the start; namely, that we should attempt to consider the thyroid today, in so far as we are able, primarily from the standpoint of its physiology and metabolism, and secondarily perhaps, from the standpoint of its structure. Structural or anatomic studies have been of tremendous value, but they have recently brought us to a point beyond which progress was slow until coupled with the distinguished work of a group of American investigators including Marine, Gaylord, Kendall, Plummer, and others who have attacked the thyroid problem largely from the physiologic side. Indeed Virchow had warned us many years ago of the limitations of our interpretation of thyroid symptoms by structural alterations alone. He stressed the fact that the thyroid is a labile tissue capable of extreme fluctuations in structure and of marked hyperplasia and involution in response to variations in functional activity, giving rise to all types of secondary structural changes, the interpretation of which has caused some confusion.

One must have certain anatomic considerations to build upon, however, as this is the usual approach, and an indispensable one if we are to consider congenital defects, growth abnormalities, or accessory islands of thyroid tissue. As a rule, accessory islands of other organs have not attracted the clinician's attention, except perhaps in the case of the adrenal body. Accessory spleens or accessory islands of pancreatic tissue have, for the most part, been interesting only in so far as they represent peculiarities or anomalies of anatomic structure.

A consideration of accessory or aberrant thyroids is, however, important for a number of reasons: (1) Because of their relative frequency. (2) Because of their commonest location, the neck, where a large number of important structures are in close proximity, and where it may be easily seen how the increase in size of a single misplaced structure can do considerable mechanical damage. (3) Because thyroid tissue, whether in an aberrant or a normal location, is exceptionally prone to undergo hypertrophy, hyperplasia, etc., in response to a variety of physiologic influences. (4) Because fairly distinct clinical pictures are shown by the different types.

It is not at all surprising that the thyroid gland should be subject to growth abnormalities, arising and developing as it does in the upper neck region where many complex phases of embryologic development occur which often lead to growth defects such as branchial cysts and embryonic tumor formation of parotid origin, etc. Furthermore, the complex process through which its own anlage passes before reaching mature development makes it still more evident that growth defects may be easily produced. The commonest developmental defect is the production of aberrant islands throughout the neck region, or actual misplacement of the gland itself. These anomalies are founded directly upon an embryologic basis, and it may be useful to refer briefly to the embryologic development of the gland in order to establish this fact more clearly.

It will be recalled that the thyroid takes origin from the so-called mesobranchial field of the embryo, an area corresponding to the base of the tongue, which is marked by the foramen cecum in the adult. With growth, the anlage extends downward, forming a stalk which soon expands, becoming bilobed in its caudal portion, and eventually occupies its normal position just below the cricoid cartilage. This stalk, or thyroglossal duct, is normally obliterated. In the event, however, of incomplete obliteration, it may lead to the formation of a thyroglossal sinus or cyst, or, if islands of thyroid tissue become misplaced in the descent, a series of aberrant thyroids may be produced in various sites of predilection. Perhaps the most familiar of these are the lingual thyroids, in which sometimes the entire gland or a major portion of it may be located at the base of the tongue. Other sites of the median aberrant thyroids include the inferior aspect of the tongue, the prelaryngeal region, and, if the descent of the thyroglossal duct is extreme, the substernal region.

The aberrant islands are either single or multiple, and are as a rule quite small, averaging about the size of a pea, although they may, of course, be much larger. They are very common, and Gruber[1] reports an incidence of 7.6% as

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being present in a series of 300 subjects from the dissecting room. In histologic structure they simulate that of the thyroid proper quite closely, and corresponding to the lability of the structure of this organ, they are particularly prone to undergo hypertrophic and involutionary changes, showing that like the mother organ they too are dependent upon other physiologic influences. Frequently colloid and nodular goiters are encountered in the lingual or median site, and from them serious symptoms, generally mechanical in nature, are produced, for as a result of their enlargement they may cause distortion, compression, and even erosion of the trachea to which they are closely applied. Interestingly enough, however, true malignant tumor growth of the lingual thyroids is rare.[2]

In the treatment of these enlarged lingual or median aberrant thyroids which cause mechanical or pressure symptoms, surgical interference is, of course, often indicated, but the operator should always consider the fact that the radical removal of a large aberrant thyroid may lead to thyroid deficiency, if not prevented by the proper therapeutic measures.

Quite apart from the median aberrant thyroids which follow closely the course of the thyroglossal duct is another series of islands—the lateral aberrant thyroids. These are quite common, and are generally situated beneath and in close approximation to the sternomastoid muscle, at any level from the mastoid process to the sternoclavicular joint. Their incidence is probably higher than that of the lingual thyroids, and is reported as being at least 10 per cent.[1] Their mode of origin is obscure. The older school of embryologists believed that there were three distinct anlagen which contributed to the formation of the thyroid gland; a median one, similar to that just described, and two lateral ones arising from the third and fourth branchial arches. The older contention was that lateral aberrant thyroids were formed through lack of fusion of these lateral anlagen, but more modern investigation has not established this as a fact. That certain structures from the third and fourth arches, however, do exert an influence upon the thyroid proper there is no doubt, as the parathyroids arise from lateral positions, and also the postbranchial bodies, whose ultimate fate, apart from the fact that they fuse with the thyroid, is unknown.

This lateral aberrant series acts somewhat differently from the median series, and should perhaps be distinguished as a clinical entity. They are nearly always multiple. Their histologic structure may resemble the mother organ quite closely or may be distinctly atypical. They are often associated with a surrounding ring of lymphoid tissue. Evidences of function here again have been frequently observed, as these nodules in the neck nearly always follow the physiologic fluctuations in size of the thyroid proper. They are not predisposed to assume the structure of colloid goiters to the extent that is seen in the median thyroids. They may enlarge, however, and are particularly prone to undergo cystic degeneration, and unlike the median series, frequently undergo characteristic tumor formation with the production of papillary cystic adenoma or adenocarcinoma.[3]

That the lateral thyroid nodules should show such a distinct neoplastic tendency, whereas the median aberrant thyroids practically never show this tendency suggests that perhaps the older school of embryologists were correct in their assumption that they arose from a separate lateral anlage. It even recalls an interesting comparison with a similar condition noted in the pancreas, an organ which has two distinct anlagen, one for the head and another for the body and tail. Here, as is well recognized, carcinoma of the head of the pancreas is common, whereas carcinoma of the tail is rare. These lateral thyroid tumors are, as a result of their location, quite frequently mistaken for branchial cysts or suppurating lymph glands. The condition often proves to be a diagnostic problem to the clinician who is confronted by a slow-growing semicystic or solid tumor of the side of the neck, which luckily submits readily to surgical therapy. Excision is generally indicated, owing to their predisposition toward malignant change, although the degree of malignancy is not high. Their removal is seldom accompanied by evidences of thyroid deficiency.

A third extremely peculiar characteristic of the thyroid gland, which is almost unique, is the rather infrequent occurrence of small islands of misplaced thyroid tissue which may be found scattered throughout the body quite apart from the region of the neck. They occur in most bizarre locations; in the pleura, the pericardium, and particularly in the long bones. We are more or less in the dark, however, as to the explanation of their origin upon an embryologic basis. Many have believed that these islands represent metastases from an insignificant primary carcinoma of the thyroid; others that we are dealing only with heterotopia of the gland. In some instances, a latent primary thyroid neoplasm has been discovered, which accounted for true metastases, but in others the thyroid proper has apparently been the seat only of a benign lesion, such as a colloid goiter with no evidence of neoplastic change. This has given rise to the term benign metastasizing struma, a term which

has been subjected to considerable criticism.[8]

Ewing[4] has discussed the question from a number of angles, and has left it open, as the available data at our disposal seem to be insufficient at present to permit us to arrive at a clear appreciation of the causes. One explanation is that an essentially normal thyroid may under some conditions give rise to metastases. Another very plausible, although speculative explanation of this phenomenon is that the so-called metastases in reality represent a sudden hyperplasia of preëxisting islands of aberrant thyroid tissue, due possibly to certain physiologic influences or iodin deficiency.

To sum up briefly what the present trend of our knowledge is with regard to the relation of thyroid structure to physiologic influences, particularly those of iodin metabolism, one must refer to Marine's[5,6] work. Marine has emphasized that the thyroid size and structure is at the mercy of certain influences which seem to include the iodin metabolism and iodin content of the gland. He has shown that if the iodin content is allowed to fall below that of 1 mg. per gram of thyroid tissue, marked histologic changes immediately take place, with resulting hyperplasia and great proliferation of the parenchyma. These stages may be followed either by (a) atrophy of the gland or (b) the development of colloid goiter, or the so-called resting stage, thus completing a cycle which Marine has been able to produce in experimental animals.

Rienhoff[7] has recently supplemented this work with a series of important observations upon the effect of iodin upon exophthalmic goiter. By removing small portions of the thyroid from time to time from patients who were under preoperative iodin therapy, he has shown that regressive histologic changes produced by iodin are extraordinary in their extent. Whatever the combination of elements may be which predisposes to thyroid hyperplasia, we have a relationship of function to structure which is unusually delicate and labile.

That the thyroid in its normal position can undergo a certain amount of enlargement and structural change is not generally viewed with alarm, if unaccompanied by gross evidences of thyroid dysfunction. On the other hand, when hypertrophy and hyperplasia occur in the aberrant thyroids, we are confronted with a clinical problem which is worthy of our consideration. Marine's iodin-deficiency cycle (hypertrophy, hyperplasia, colloid goiter, or atrophy) is probably not produced in these structures in the same manner as in the thyroid proper, for certain other changes are characteristic of these types, such as the intracystic papillary tendencies of the lateral aberrant thyroids.

The uniquely interesting feature of our study of the aberrant thyroids lies, therefore, in the fact that we can study the hypertrophic response to physiologic influences under altered conditions. In the case of the median thyroids, we frequently see them developing into a colloid goiter probably as an end stage to this response. In the case of the lateral thyroids, we see a different end stage to this response, resulting frequently in a characteristic thyroid tumor. It cannot but suggest that in the case of the median and lateral thyroids we have an anatomical separation of certain factors which, when normally combined, contribute to the complex pathologic picture which is frequently seen in many lesions of the thyroid gland.

SUMMARY

The relative frequency of occurrence of aberrant islands of thyroid tissue in certain sites of predilection in the neck is discussed with the attempt to define the median and lateral cervical types as clinical entities.

Emphasis has been laid upon the extremely labile character of thyroid tissue, which is quite prone to undergo hypertrophy and colloid change as a result of physiologic influences, and upon the fact that aberrant islands of thyroid are similarly subject to these same influences.

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Eight Case Reports*

A HERMAPHRODITE

JAMES A. BETTS, M.D.

EASTON, PA.

R. K., aged 35, white, married, spinner in silk mill, gave a good family history except that his father died of pulmonary tuberculosis when the patient was six years of age.

The patient had diphtheria in addition to the ordinary diseases of childhood, and influenza during the epidemic of 1919. Otherwise he enjoyed good health until six months before I saw him, at which time he consulted a physician be-

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cause of general malaise accompanied by slight loss of weight and increasing prominence of the abdomen. A mass was evident in the right lower quadrant. After three months of treatment without any apparent improvement, his physician advised him to consult a surgeon; but as the symptoms were not acute, he decided to allow nature to take its course.

On July 4, 1925, while visiting in another city, he was suddenly seized with pain in the abdomen, and called a physician who repeatedly administered hypodermics without relief. He came to our hospital early on July 6th.

He was a well dressed man, weighing 190 pounds. His beard was medium to scant, and he held a cigar in his hand. He was loth to strip for complete examination, but did so after I assured him that I knew something of his previous history. Though I had attended him and his wife through the influenza epidemic, they had guarded well what they considered a secret. Physical examination revealed a large, well-developed individual. The breasts were large and pendulous—eight inches in diameter. The hips were broad and fat, measuring 42 inches. The appearance was more that of a woman than a man. There was some hair above the pubes, but there was neither scrotum nor vulva. The clitoris was 1¼ inches long and 3 inches in circumference, with a good urinary outlet through it. There was a rudimentary vagina, admitting an eighth-inch probe for a distance of 1¼ inches.

I was convinced that my patient was a woman rather than a man, and I made a diagnosis of ovarian tumor twisted on its pedicle. Early operation was advised, and performed as soon as arrangements could be made. When the abdomen was opened, about 3 pints of straw-colored fluid escaped under pressure. A mass weighing more than 8 pounds was removed from its twisted pedicle attached to the right broad ligament. Smaller masses were removed from the right and left sides of the broad ligament, as well as three bodies of similar appearance from the omentum. None of these eight or more isolated masses weighed more than two ounces. All of them resembled ovaries except a crab-shell-shaped mass covering the fundus of the bladder and a part of the rudimentary uterus. The perfectly formed tubes and round ligaments were left intact. The operation was completed with as little damage to tissues as possible, as it seemed probable that the condition was carcinomatous. Pathological reports later confirmed this diagnosis.

At birth there had been a serious question as to the sex of the infant, but the country doctor, after due consideration, declared it to be a female. The child was dressed as a female until the age of 24, but the patient declared that he always played as boys play, never as girls play. He felt like a man, and decided at the age of 24 to put on man's clothing. Therefore, he went to another city, learned to smoke cigars, and worked in an iron foundry and as a carpenter for a year each. He married a girl whom he had known well in his home town. They moved to a neighboring town, and both worked in a silk mill. After about a year, they returned to their old home, and lived happily as man and wife among former acquaintances.

The patient's developmental defects were interesting, but most surprising of all was his change of habits at 24 years of age, in spite of knowledge of his sex, as well as his vulgar conversations about his amorous desires toward the female sex. He claimed perfect gratification in the act of coitus, both to himself and the females, both before and during married life.

In 1918 I saw with another physician a patient aged 29, with exstrophy of the bladder. The patient proved at operation to be a perfect female internally, though raised in a boys' boarding school, and still dressing as a man when we saw him.

Dr. Wm. W. Betts also reports two such cases within the same time. Possibly many more apparent hermaphrodites are at large than most of us would imagine, since four such cases of mistaken sex have come under the observation of the two of us within the past eight years.

My patient was discharged from the hospital three weeks after the operation, and was back for a follow-up recently, but was in no way disturbed as to sex.

DIAPHRAGMATIC HERNIA IN A YOUNG ATHLETE

WILLIAM S. NEWCOMET, M.D.
PHILADELPHIA, PA.

It hardly seems possible to believe that a boy could reach the age of 19 and have his entire intestinal tract, with the exception of the descending colon, in his left chest, and not have some one recognize it. The boy appeared to be well developed, in good health, was upon the running team at one of our local colleges, and when occasion demanded, he had received the best medical service. Furthermore, when he entered the hospital, the notes made by the intern, in the routine physical examination of the chest, record "No marked difference in the percussion resonance." All of which goes to show that the condition was not easy to detect.



Fig. 1. Showing stomach and duodenum filled. Plate taken in recumbent position. Peristaltic wave of stomach visible at the outer side.

The young man was sent in for x-ray examination of the gastro-intestinal tract, as gastric ulcer or appendicitis was suspected. He gave a history of having had, within the last two years, several attacks of severe abdominal pain. However, these attacks might be traced back some time, and really began when he was about nine years of age. They were thought to be caused by indiscretions of diet, as they were relieved by vomiting. His family and personal history were of no interest otherwise.

He was given the ordinary preparation for a barium meal, and when examined six hours later, there were several areas in the chest which contained pockets of barium meal. These pockets could not be connected with the esophagus, but were regarded as diverticuli that only filled under certain conditions which did not exist at the time of examination. The esophagus was normal, as was later proved.

The remaining portion of the six-hour meal was in the true pelvis when the patient was standing, appeared bowl-shaped, and was thought to be a collection of coils of the small intestine; but on continuing the swallowing of the opaque meal, it was found that it dropped from the opening in the diaphragm directly into this pool in the pelvis. He was then placed in the recumbent position, when the true size of the stomach was recognized. With the unusually large duodenum it practically filled the whole abdomen. It might be stated here that during one of his vomiting spells the ejected material measured six quarts. A very narrow descending colon and a short sigmoid and rectum were also contained in the abdominal cavity, but were not recognized at the first examination.

Twenty-four hours later, the examination showed that there was still a considerable amount of opaque meal in the stomach, but most of it had entered the intestinal canal which was contained within the left chest cavity. A small funnel-shaped shadow to the left, descending into the abdomen, where its width was a little larger than a lead pencil, proved to be a very much constricted descending colon.

The heart shadow was small, slightly to the left of the center. The left lung could not be demonstrated. The cleft in the diaphragm was greater toward the back, and it seemed as if the anterior half was intact. The appendix was noted in the center line, directly under the ensiform cartilage.

An opaque rectal injection was given. The material passed up a pencil-shaped tube, and not until the entire two quarts were given did it dilate to about one inch. There were three constrictions, each being about a half-inch in diameter. There was no discomfort from the enema, nor was there ever any sensation of pain in the chest. The pain of which the patient complained was abdominal, and no reference had ever been made to the chest.

With such a large and dilated stomach and a duodenum the size of an ordinary stomach, and



Fig. 2. Chest cavity, showing six-hour meal.



Fig. 3. Showing rectum, sigmoid, and descending colon following opaque meal. Remains of barium meal still visible in stomach 72 hours after ingestion.

almost devoid of the usual peristaltic movements, it would seem impossible for food to have entered the intestinal canal. Yet this boy had lived and developed into a vigorous young man, and, aside from these periodic spells, enjoyed good health. There was no history of any accident, and from the position of the colon it must be presumed that the condition was congenital.

MEDIASTINAL TUMOR

FREDERICK B. UTLEY, M.D.

PITTSBURGH, PA.

Mrs. L. J., aged 57, married, white, seamstress, complained of cough, dyspnea, and weakness. The cough had been present for two years, and worse for the past few months. It was productive, with white frothy sputum, occurred mostly morning and evening, and was accompanied by severe substernal pain. The dyspnea had developed concomitant with the cough, and was aggravated by slight exertion. She had had precordial pain and palpitation since her youth, and this was no worse now.

Her husband was living, and suffered from arthritis deformans. One son was living and well except for heart trouble. The patient had had one miscarriage. Her mother and her direct lineage for five generations had died of pulmonary tuberculosis, as had two brothers and one sister.

Physical examination. The cough was distinctly brassy. There was an increased area of cardiac dullness, especially in the first three interspaces. Auscultatory dullness separated the mass from the cardiac dullness below. There were no impulse, thrill, or murmurs. The pulmonic second sound was greater than the aortic second sound. There was dullness at the apex of the right lung, inner half, and first three interspaces, with amphoric breathing.

The diagnosis made at this time was cavitation at the right apex, tuberculous in origin. An x-ray of the chest and a blood Wassermann were ordered. The x-ray showed a marked increase in the transverse diameter of the vascular shadow suggestive of aneurysm of the aorta. The Wassermann was 4 plus. Repeated examinations of the patient failed to show any of the signs of aneurysm except the widened area of dullness under the upper portion of the sternum. The final diagnosis, therefore, was mediastinal tumor, most likely gumma.

Under x-ray cross firing, inunctions of mercury, and potassium iodids, the symptoms improved considerably, and the patient was discharged from the hospital with the understanding that she would report to the dispensary. This she has failed to do, but a report through



Fig. 4. Showing colon in chest cavity. Appendix is discernible, in original plate, between the eleventh and twelfth ribs, directly to left of the spine.

the social-service department indicates that she is following her treatment in a desultory manner, and now showing but slight improvement.

This case illustrates beautifully the necessity of careful coördination of the history, physical examination, and laboratory data in every case; for, in this instance, an interpretation of the one exclusive of the other would have led to a wrong diagnosis, namely, pulmonary tuberculosis with cavitation on the one hand, and aneurysm of the arch of the aorta on the other.

IMPERFORATE HYMEN, CAUSING RETENTION OF URINE*

FRANK C. HAMMOND, M.D.

PHILADELPHIA, PA.

H. G., single, 14 years of age, was admitted to the Samaritan Hospital on September 24, 1924, at 11 p. m., with continual cramplike pains in the lower abdomen and pelvis which had been increasing in severity throughout the day. Her general condition had been apparently normal until about ten days previous to admission, when she first noticed vague pains of daily occurrence in the lower abdomen. No attention was paid to these abdominal pains until late in the afternoon of the day of admission, when her physician was called in on account of their severity. The mother called his attention to the fact that there was a "bulging at the privates." A diagnosis was made of imperforate hymen, with a lower abdominal mass, and her admission to the hospital was requested.

I saw her shortly after admission. On abdominal inspection, there was seen a pyriform enlargement, base up, extending from the symphysis to the umbilicus. In reply to questioning, the patient stated that she had not voided urine since going to bed the night before, but had failed to mention this previously. Inspection of the vulva revealed an imperforate hymen, with marked bulging (see illustration). Upon rectal examination, the vagina was found markedly distended, with the contents under great tension (a hematocolpos). The posterior vaginal wall was pushed somewhat tightly into the hollow of the sacrum.

Catheterization was requested, and 34 ounces of urine were evacuated, sufficient to relieve tension, with immediate cessation of abdominal and pelvic pain. Shortly afterward, the patient went to sleep for the remainder of the night.

She was ordered prepared for operation for imperforate hymen the next day at noon.

*From the Gynecological Service of the Samaritan Hospital, Philadelphia, Pa.

Urinalysis of the first catheterized specimen was as follows: specific gravity 1.020, reaction acid, trace of albumin, no sugar, many mucus shreds, a few red blood cells, and occasional white blood cells. The blood count showed: hemoglobin 85 per cent, white blood cells 18,400, polymorphonuclears 80 per cent, small lymphocytes 20 per cent, large lymphocytes 4 per cent.

On September 25th, catheterization was necessary about 8 a. m. on account of returning distress due to inability to void.

At noon, under ethylene-oxygen anesthesia, a longitudinal incision was made in the median line of the hymen, the cut edges retracting. The hymen was markedly thickened. The incised



Showing the marked bulging of the imperforate hymen.

edges were whipped over with a continuous suture of No. 0 chromic catgut. Nine hundred c.c. of dark red blood, of a consistency that easily permitted its escape, were evacuated. It was then found that the cervix and uterine cavity had been involved, fingers passed into the cervical canal showing the condition to be one of hematocolpometra.

On the second day after operation, the leukocyte count had dropped to 9,000. The patient made an uninterrupted recovery, and was discharged from the hospital at the end of a week.

It is not possible to determine when puberty was established, because the patient was very insistent that she had not had any symptoms to cause her to suspect that menstruation was taking place. In fact, she was symptom free until one week previous to admission to the hospital. It may be that a menstrual period occurred at that time, and the additional blood from the menses was the precipitate cause of the symptomatology.

This is the seventh case of imperforate hymen I have seen, and the only one in which the pres-

sure of the hematocolpos was sufficient to cause retention of urine, nor up to this time had I seen in the literature any reference to urinary retention in cases of imperforate hymen. Recently, however, a copy of the *Bulletin of the Buffalo General Hospital* for January, 1923, came to my attention which contains the report by Thew Wright of a case of double uterus and vagina, with left unilateral hematocolpos simulating a large ovarian cyst.

This patient was a married woman, aged 29, admitted to the hospital on account of inability to urinate and pain in the lower back. The menstrual history was negative. Catheterization was necessary the day before admission. An abdominal enlargement extending from pelvis to umbilicus was diagnosed as an ovarian cyst. Vaginal examination showed a tense cystic tumor filling the pelvic cavity, apparently coming from the left side of the pelvis, and scarcely leaving room for the examining fingers, which passed to the right and somewhat posterior to it. It was impossible to feel the cervix. At operation, a bicornate septate uterus was found, with the left cavity emptying through its half of the cervix into a vagina closed at the distal end about an inch from the perineum. The other uterine cavity emptied into a complete vagina.

It is of interest to note the size of the tumor and the long time during which it had been forming (15 years) without having caused symptoms of sufficient severity to bring the patient under surgical observation until the sudden onset of urinary retention. From the illustration of this case, it would appear that the retention of urine was due to pushing back of the uterus, as is seen in certain cases of uterine fibroids, and not to direct pressure of a hematocolpos *per se*.

PROLAPSE OF UTERUS THROUGH A RING PESSARY, WITH STRANGULATION*

HARRY A. DUNCAN, M.D.

PHILADELPHIA, PA.

Mrs. I. B., aged 66 years, was admitted to the Samaritan Hospital at 1 a. m., June 10, 1924. She complained of a painful tumor protruding from the vulvar orifice for the past six hours, following heavy lifting. Her temperature was 97.4° F., pulse 110, and respirations 25. The mass was rapidly increasing in size, and becoming darker and more painful.

Her history is not pertinent to this report except that she had had one full-term pregnancy with instrumental delivery and severe lacerations which were not repaired. The menopause developed in the 55th year. For the previous ten years she had suffered with procidentia uteri, and for ten months she had been troubled with gravity ulcers over the protruding uterus which bled freely. One month before, the family doctor had replaced the uterus, and introduced a McIntosh stem-ring pessary. This gave good support to the uterus.

Six hours previous to her admission to the hospital, while lifting a heavy weight, she felt the uterus pass downward through the ring of the pessary, and protrude from the vulva. Repeated unsuccessful attempts were made by the patient to replace the uterus or remove the ring, but the protruding mass increased rapidly in size.

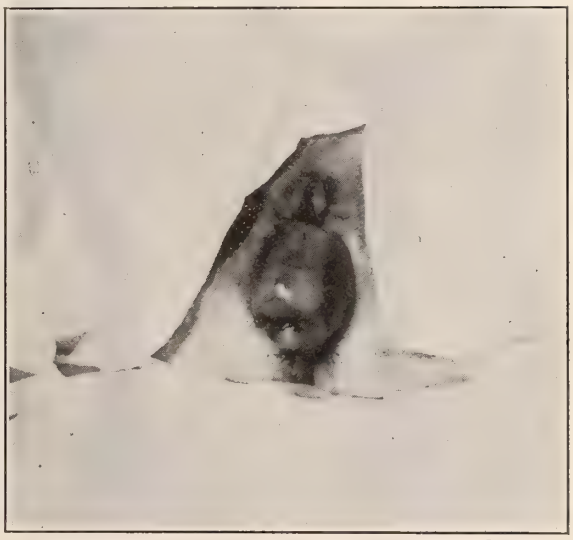


Fig. 1. Uterus prolapsed through ring pessary.

On admission, a hurried general physical examination revealed nothing except a very obese abdomen, varicose veins, and scars of healed varicose ulcers of both legs. An ovoid mass measuring ten inches around at the level of the internal os, and ten inches around in what should have been the long axis of the uterus protruded from the vulvar orifice. The stem of a hard-rubber pessary could be seen pointing upward toward the urinary meatus, and the ring could be felt encircling the dark gangrenous looking mass.

At 2 a. m. the ring of the pessary was cut, and the pessary removed. No attempt was made to replace the uterus. The surrounding tissues were so indurated and friable, it was thought very likely that a slough would follow and might involve the base of the bladder. Hot boric-acid compresses were applied. Each day the mass

*From the Gynecological Service of the Samaritan Hospital, Philadelphia, Pa.

grew smaller and of better color. On June 14th the prolapsed uterus was reduced, although the vaginal walls were still greatly thickened, and a No. 2 Menge pessary was introduced.

On June 16th, the patient was discharged from the hospital. The uterus at this time had almost regained its normal size, and was kept in good position by the Menge pessary.



Fig. 2. Two views of hard-rubber pessary through which prolapse occurred.

DISCUSSION

JOHN M. FISHER, M.D. (Philadelphia, Pa.): Attention should be called to the danger from pessaries. A patient at the Philadelphia Hospital had had incontinence of urine for thirty years. No pelvic examination had been made in that time. On examination we found a stem pessary that had perforated the base of the bladder and had been retained for thirty years. After the removal of the pessary, the vesicovaginal fistula closed spontaneously.

In another case, a Menge's pessary had been retained for twenty months, and had given rise to such an extensive formation of granulations, embedding the pessary, that it was necessary to break up the pessary in order to remove it.

In still another case where a pessary had been retained for a number of years and had to be broken up before it could be removed, it was found that carcinoma had developed as a result of the irritation.

A radical change for the community good would be effected if influential members of the medical profession would consent to be conscripted for services as purists in order to pass on instances of neglect to their professional brethren.

SUBACUTE PANCREATITIS, WITH CYST AND CHOLELITHIASIS

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HARRISBURG, PA.

The patient, a housewife, aged 31, was admitted to the Harrisburg Hospital, complaining of pain in the upper abdomen and a tumor. She was the mother of several children, all normal deliveries, with no miscarriages and no history of menstrual disturbance. Her family history was negative.

Up until twelve years previous her general health was good. She was always a hard-working woman, performing her household duties and assisting with the work on a farm. After her first pregnancy, the patient began having periodic attacks of pain in the right upper quadrant, coming on at varying intervals. These attacks were not influenced by food, character of food, or time of day. At times they would last a whole day, and would be relieved only by hypodermic medication. The pains at times were transmitted to the back. These attacks were so severe that patient was compelled to go to bed, but between attacks she felt perfectly well. She was told that the pain was due to gall stones, and was under the impression that the interval between attacks was prolonged by the use of olive oil. Appetite and digestion had always been good, with no constipation. Later, however, the color of the stool had changed, becoming white or putty colored. The attacks of pain gradually became more severe, the last one coming seven days prior to admission to the hospital. At this time the pain did not radiate, was not accompanied by nausea or vomiting, nor was there evidence of shock. The abdomen felt hard and distended, and a mass was discovered. Medication relieved the severity of the attack, but dull pain and soreness persisted until admission, which was on January 5, 1925.

At this time she had a temperature of 102°, pulse 124, respirations 32. The temperature ranged during this attack between 99° and 102°. She was a well-nourished, well-developed young woman, weighing approximately 140 pounds. There was no history of loss of weight. Her color was good, there was no evidence of jaundice, and the skin was normal.

The physical examination throughout was of no importance, except examination of the abdomen, which was rather pendulous, soft, not tympanitic or rigid. A mass was palpable in the upper abdomen, extending across, which was hard, slightly tender and fixed, about 15 cm. long and 8 cm. wide. This mass was not continuous with the liver, nor was it associated with the

gall bladder or spleen. Percussion revealed some bowel over the left side of the mass. There was distinct tympany for about 7 cm. between the mass and the liver. Examination of the liver was negative, and the spleen could not be outlined. The flanks appeared normal, thereby eliminating the possibility of fluid.

All urinalyses were negative; renal function and stool examination were normal. Blood-sugar tests were normal. Blood examination on admission revealed 4,100,000 red cells, 13,000 white cells, polymorphonuclears 84 cer cent, and lymphocytes 16 per cent. Prior to operation, blood examination revealed red cells, 4,450,000; white cells, 7,100; polymorphonuclears, 75 per cent; lymphocytes, 25 per cent. A gastro-intestinal x-ray revealed no six-hour retention in the stomach. The stomach was high up in the abdomen. The pylorus and duodenum, which were under the liver, were distorted in shape and appeared fixed, probably due to adhesions.

In view of the above history, laboratory reports, and physical findings, we were of the opinion that we were dealing with a patient suffering from two distinct conditions. From the history of the previous attacks we were led to believe that she must have had repeated attacks of gall-bladder colic extending over a period of years. The last attack of pain, which was seven days prior to admission to the hospital, was different in character and location. Following this, she noticed a mass, which would lead one to believe that there was some involvement of the pancreas, this being brought about by infection from the gall bladder through the duct of Wirsung, setting up a pancreatitis, ultimately blocking the duct of Wirsung, and producing a cystic condition of the pancreas, or abscess. Therefore, a diagnosis was made of (1) pancreatitis with a cyst or abscess, and (2) cholelithiasis with cholecystitis.

The patient was kept under observation for eight days, until the temperature dropped and remained at 99, when she was referred to Dr. Harvey F. Smith for surgery.

On January 13, 1925, a high gall-bladder incision was made, revealing small patches of fat necrosis on the omentum and on the peritoneum.

The omentum was very much thickened at the point of attachment over the pancreas. The gall bladder was found to be filled with stones, several of which were impacted in the cystic duct. The stones were removed, and the gall bladder drained.

On examination of the pancreas, a mass was revealed about the size of a baseball, surrounded with dense adhesions, occupying the middle third of the body, and extending towards the tail. The transverse colon was identified. The mass was found to be presenting below the stomach, and behind the gastrocolic omentum. The omentum in this vicinity was cofferdammed by suturing it to the parietal peritoneum, thus making the future point of attack extraperitoneal.

On January 20, 1925, the second-stage operation was performed. The pancreas had been made extraperitoneal seven days before by suturing and packing off with gauze, and was easily exposed at this time by retracting the abdominal wall. The pancreas was incised between the middle third on the anterior surface with the electric cautery. An abscess on the right side contained from one to two ounces of thick pus and necrotic pancreatic tissue, cultures of which were made. The abscess cavity seemed to extend to the tail of the pancreas. Drainage tubes and gauze were inserted into the abscess cavity. Operation was performed without an anesthetic. The patient made an uneventful recovery and was discharged from the hospital February 13, 1925.

LYMPHOSARCOMA INVOLVING BOTH BREASTS

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AND
A. J. BRUECKEN, M.D.
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The following case is presented because of its rarity, its unusual manifestations and the acuteness of its course.

It cannot be said that the primary manifestations were in the breasts. They appeared in fact, as a lump in the left axilla, but the patient, when first seen very shortly afterward, presented the enormous enlargement of the breasts seen in figure 1, and the double breast enlargement was the most striking feature of her clinical course. It will be noted, however (figures 2 and 3), that there was also involvement of the thyroid and of the right inguinal glands which increased rapidly, leading us to suppose that she suffered from a general sarcomatosis. This, as will be seen, proved to be the case.

We were able to find references to only three cases of lymphosarcoma involving both breasts, and all of these differed from each other as does this case from them.

The first case noted was that of Billroth. Ewing throws some doubt on the sarcomatous nature of Billroth's case, believing it to be one of those atypical carcinomata in which considerable areas of the tumors failed to show acinar arrangement. No such doubt arose in the pres-



Fig. 1. Showing immense enlargement of breasts.

ent case, the tumor structure showing throughout a monotonously typical lymphoid structure, with the characteristic features of lymphosarcoma, including the so-called Sternberg cells.

The second case, that of McWilliams[1] showed lymphosarcoma, first in the right breast and later in the left. Later examinations of the blood showed this case to have been actually one of acute lymphatic leukemia. Such a question does not arise here.

The third case, that of Elsberg,[2] showed multiple round-cell sarcomata of both breasts arising during lactation. In our case there was a single tumor mass in each breast arising during lactation, although the axillary and inguinal masses appeared during pregnancy.



Fig. 2. Showing thyroid enlargement.

The entire duration of the present case was four months before admission to the hospital, and two months after. The history is imperfect, owing to language difficulty, and also to the ignorance of the patient and her husband.

From the beginning of observation in the hospital the tumors were deemed inoperable and unfit for x-ray or radium therapy. Coley's fluid was used in increasing doses with reaction but no noticeable effect. Death occurred from asphyxia occasioned by pressure of the growth in the thyroid.

CASE HISTORY

H. C., female, Austrian, married, aged 34, was admitted to St. Francis Hospital, Pittsburgh, January 12, 1925. She died March 14, 1925.

Four months before admission and during the seventh month of pregnancy, she noted a mass in the left axilla. This was later followed by a



Fig. 3. Showing enlargement of inguinal glands.

mass in the right groin, after which both breasts became enlarged and tender. The enlargement of the breasts caused her to seek admission to the hospital. The only further information obtainable was that she had always been healthy.

Physical examination revealed a well-nourished white female, thirty-four years, apparently not very ill. Dental hygiene was poor. Both lobes and the isthmus of the thyroid were enlarged and nodular. In the left axilla was a mass of enlarged lymph glands the size of a lemon, and there was a similar mass, somewhat smaller, in the right groin. The other superficial lymph glands were negative. Both breasts were greatly and uniformly enlarged, the left slightly more than the right, and diffusely indurated, so that the idea of a mastitis was at first entertained. The skin over the breasts was glazed, and of a dark reddish color. Later, blebs formed which

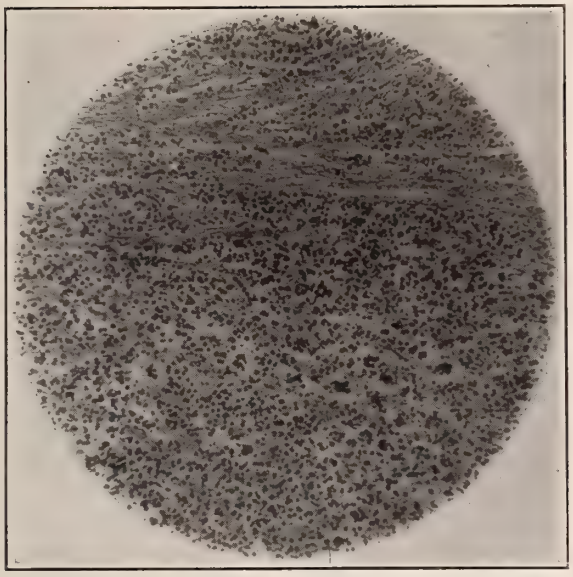


Fig. 4. Section from breast tissue.

broke down and ulcerated. The tension and weight in the breasts caused great discomfort. The liver and spleen were not palpable, and physical examination was otherwise negative.

There was no fever except in the reactions to Coley's fluid. Two blood counts made in the afebrile period showed hemoglobin 90 per cent, and later 79 per cent; red blood corpuscles 4,200,000, white blood corpuscles 17,000, and later 18,200. The polymorphonuclear leukocytes varied from 54 per cent to 79 per cent, the large mononuclears from 18 per cent to 4 per cent, and the lymphocytes from 21 per cent to 14 per cent. A blood count four days before her death was as follows: hemoglobin 70 per cent; red blood corpuscles 4,230,000; white blood corpuscles 8,700. Differential count: polymorphonuclears 62 per cent; lymphocytes 29 per cent; large mononuclears 6 per cent; transitionals 2 per cent; eosinophils 1 per cent. The blood Wassermann was negative. The urine showed repeatedly a trace of albumin and a number of pus cells. X-rays of the chest showed a hilous deposit on both sides.

During her stay in the hospital, both breasts increased in size, and ulcerated; the left axillary and right inguinal masses enlarged; and a small mass appeared in the left groin. There was progressive emaciation and edema of the left arm, while examination of the chest showed evidences of bilateral hydrothorax. During the last two weeks the thyroid enlargement increased rapidly, and caused a progressive asphyxia from which she died. Tracheotomy was found impossible.

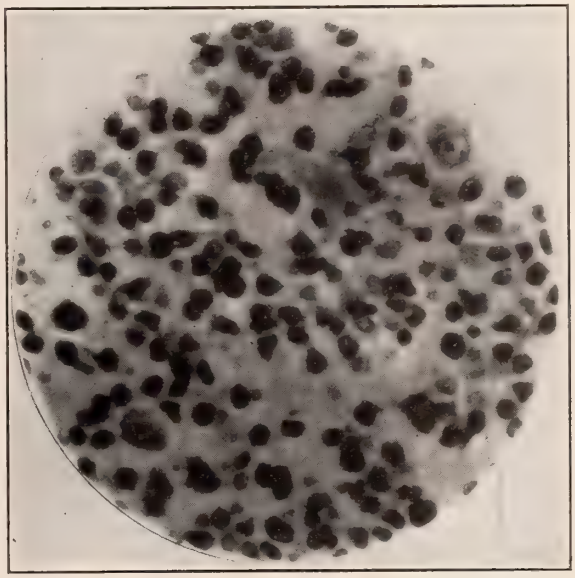


Fig. 6. Section of breast tumor—high power—showing Sternberg cells.



Fig. 5. Section of kidney, with lymphoid infiltration.

AUTOPSY REPORT

Lymphosarcoma of both breasts, of the lymphatic glands, uterus, ovary, kidneys, labia, and thyroid; ascites; and hydrothorax. The origin of the growth could not be discovered, owing to the general sarcomatosis of the organs.

In the right labia was found a large mass about the size of a walnut. The left arm was swollen and pitted on pressure. A great deal of blood-tinged serous fluid oozed from all the tissues around the breasts. The mass which occupied both breasts was found to be grayish and friable.

Abdomen.—There were between 1 and 2 liters of clear yellowish fluid in the peritoneal cavity. The diaphragmatic surface of the liver was adherent to the diaphragm by extension of little tumor masses occurring all through the diaphragm. They had not as yet penetrated the

capsule of the liver. The spleen was enlarged, but free from adhesions. The stomach and intestines were moderately distended. The appendix was adherent to the right ovary by a tumor mass. The uterus was greatly enlarged, with nodular tumor masses, but it showed no adhesions. The right ovary was greatly enlarged, and rather soft. The left ovary appeared normal. The lymphatic glands along the inferior vena cava were all enormously enlarged and fused together, while there was a large mass of glands in the pelvis to the right of the rectum. The bladder was unaffected.

Chest.—There was a large amount of yellowish serous fluid on both sides which floated up the lung. The lungs were adherent to the diaphragm by the same tumor masses which caused adhesions to the liver. Enlarged lymph nodes were found in the anterior mediastinum, and in the thymus region there was considerable enlargement. The tracheobronchial lymph nodes were greatly enlarged and anthracotic. The thyroid gland was much enlarged, and the structures over it were stretched and tense. The tumor tissue found throughout the various organs was of the same grayish, friable, uniform nature, but it varied from a soft encephaloid mass in the ovary and lymphatic nodes to a fairly firm mass in the breasts, uterus, and kidneys. The mass showed remarkably little degeneration, and in the postmortem condition was quite bloodless. The lungs showed nothing of note beyond the grayish nodular areas previously noted. The heart was rather flabby with a milk spot over the right ventricle. All the valves appeared normal. The coronaries showed nothing unusual. The heart muscle was of pale, yellowish brown.

Liver.—The surface showed some grayish, rather firm, friable nodules. However, on section it showed a pinkish-gray surface, with no evidence of secondaries. The gall bladder showed nothing of note. The spleen showed nothing of note. The pancreas appeared normal.

Left kidney.—There was a large mass about the middle of the organ which was grayish-white and friable. It extended to the calix of the kidney, and was covered by the capsule of the kidney. The remainder of the kidney substance appeared normal, and the capsule stripped readily.

Right kidney.—This showed some irregular nodular swelling which penetrated the kidney substance and was found to be of the same tumor substance found in the opposite kidney. The adrenals showed nothing of note.

Uterus and right ovary.—These were greatly enlarged (weighing 2,250 grams), and were hard and nodular. On section, the whole wall of the uterus was found infiltrated with tumor, and the ovary was completely replaced by tumor tissue. In the ovary the tissue was very much softer, and resembled brain substance in its consistency.

A microscopic section of the tissue from the breast, as well as from the remaining organs, showed it to be composed largely of densely packed, small round cells, with a supporting framework of rather large connective-tissue stroma. The connective tissue contained numerous rather large blood vessels which appeared congested, and were filled with red blood corpuscles. The high-power field showed the structure of the small round cells to resemble closely that of a lymphocyte with a condensed, deeply staining nucleus and relatively small cytoplasm. Occasional larger cells with lighter staining nuclei were seen which resembled the germinal cells of the lymph follicles. In spite of the rapid growth of the tumors, however, few cells were seen in active mitosis. No areas of degeneration nor of necrosis were seen. Sections of the several metastases all showed a picture resembling that in the breasts.

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SPASM IN THE MIDDLE OF THE ESOPHAGUS

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At the cardiac opening of the stomach the circular muscular fibers of the lower end of the esophagus have a certain amount of sphincteric action not present elsewhere in the esophagus. For this reason it is not uncommon to have spasm at the lower end of the esophagus, so-called "cardiospasm." Spasm occurs so seldom in the remainder of the esophagus that one scarcely gives it a second thought. In obstructive lesions of the esophagus, if the obstruction is at the lower end, cardiospasm must always be ruled out. If the obstruction is elsewhere in the esophagus, it is assumed to be due to an organic lesion and not to spasm. The common organic lesions are cancer, syphilis, and stricture caused by swallowing some caustic substance. Where the patient has not swallowed a caustic and the Wassermann is negative, an organic lesion of the esophagus is usually assumed to be malignant.

Cancer of the esophagus is often treated by having the patient swallow a radium capsule, or by introducing a radium capsule on a sound with the patient standing before a fluoroscope. This is a bad practice, not only because the approxi-

mation of the radium to the lesion is left to chance, but also because the diagnosis should be confirmed by direct vision through an esophagoscope. This is well illustrated by the following case:

Mr. A. V., aged 55, presented himself in November, 1923, with a history of increasing difficulty in swallowing for two months, and loss of 60 pounds in weight. He had been drinking heavily for the past month. He had been unable to swallow anything for 4 days, even water being regurgitated during this period. His condition was desperate, and it seemed as if he must succumb in a few days unless relief was obtained. X-ray examination with liquid barium meal showed an absolute obstruction at about the middle of the esophagus. Nothing passed this point, and the meal was finally regurgitated. A report of absolute obstruction at the middle of the esophagus was made, probably due either to carcinoma or syphilis. The Wassermann was negative.

He was placed in a hospital for diagnostic esophagoscopy, and while waiting for this was given large doses of belladonna. He was given liquid food, a spoonful or two at a time. At the end of three days, an esophagoscope was passed, and an absolutely normal esophagus was found. A second x-ray examination made at this time failed to show any obstruction, and the appearance of the esophagus was entirely normal. The patient rapidly recovered his lost weight and was well when last heard from.

This was undoubtedly a case of spasm relieved by large doses of belladonna.

DISCUSSION

Charles Long, M.D. (Wilkes-Barre, Pa.): About thirty years ago, on my service in the Wilkes-Barre General Hospital, a patient about thirty years of age, was admitted complaining of total inability to swallow. He gave a history of a thirty-pound loss in weight in three months, and said the case had been diagnosed as tumor of the esophagus. The patient was of inferior mentality, but amenable to treatment. He regurgitated all food, but we found no evidence of tumor. Stomach tubes and sounds could be passed without any difficulty, nor was there any evidence of spasm of the muscles.

Notwithstanding this, he could not be fed without the stomach tube until it was discovered that he was an easy subject to hypnotize. Thereafter the intern hypnotized him regularly three times a day, and while under hypnosis he would eat a full meal. This treatment continued until he had regained his full weight.

After his discharge we heard nothing of him for three months, at which time he reported back to the hospital in the same condition as when we had first seen him. The diagnosis at that time was hysteria.

No drug yet discovered has any appreciable effect in permanently reducing blood pressure. However, many are most valuable in relieving symptoms.

Symposium on Eye Lesions*

TREATMENT OF OPHTHALMIC TRAUMATA

ABSTRACT

EDWARD B. HECKEL, M.D.
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Foreign Body in the Cornea

In a case of foreign body in the cornea, the first and most important thing is of course diagnosis. Its presence must be recognized. Foreign bodies vary in size and position, and they can best be seen in a dark room and by the aid of illumination such as is given by the Zeiss light. In addition, retro-illumination is also useful. I have been in the habit of using a transilluminating lamp which throws a light over the surface of the cornea and permits the detection of small particles by shifting the light.

Cases are sometimes seen where an attempt at removal has been made, and the foreign body is embedded and the corneal epithelium denuded over an area twenty to fifty times the size of the foreign body. If a small cinder in the cornea is to be wiped off, it should be done very carefully, using a cotton carrier with a little bit of cotton wrapped around it, and the physician's hands should be clean in order to avoid infection. The cotton should always be wet, never dry. For this purpose, there is nothing better than mercury cyanid, 1 to 3,000. This swab can be placed on the cornea, pressed down below the foreign body, and given a little twist, and the foreign body can be wiped off.

If the foreign body is embedded, it requires surgical treatment to remove it. I use a Bowman's needle with a very sharp point. Some object to the sharp point, but if a man's hand is not steady enough to use the sharp point, he should not attempt to remove a foreign body at all. This instrument enables the operator to remove the foreign body completely. In many cases in which a piece of hot steel has struck the eye, it oxidizes as it strikes the cornea, and leaves a ring of iron hydroxid with the little piece of steel in the center. This can be taken out with the Bowman needle, and if there is any left, it should be curetted. In other words, the foreign body should be completely removed and the wound made clean. After this, it is our habit to use atropin. If the foreign body has been simply wiped off, the atropin may be omitted, but if an instrument has been used, this drug is very beneficial to the patient. The pain is greatly diminished by its use.

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*A talk presented before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

Sometimes it is difficult to tell whether a splinter of steel in the cornea has entered from above or below. In these cases, fluorescein is useful because it will show the entrance immediately. Many such foreign bodies are magnetic, and if the entrance is from above, it can often be coaxed out by a magnet. If it does not come out readily, there is no danger in enlarging the entrance wound slightly with a very sharp cataract knife. Atropin should, of course, be used in these cases.

Prolapse of the Iris After an Incised Wound of the Cornea

Studies with the slit lamp have shown that when a man stands erect, the circulation of the anterior chamber is from above down; but when he lies on his side, it is the other direction. If there is a hole in the cornea, the direction of the current is towards that opening, the iris flops forward and either plugs the hole or protrudes. The anterior chamber has a certain tension within it, and the blood vessels of the iris are under a certain external pressure which regulates, to an extent, the amount of blood in them. If that tension is released, the iris has a tendency to expand, and the pupil contracts. The iris occupies a larger area. As the pupil cannot be dilated with atropin in the presence of a leaking anterior chamber, it occurred to me, instead of trying to reduce the prolapse of the iris (which some say they have done, although I never have), to incise it after the instillation of eserin, using a local anesthetic, followed by three instillations of eserin, one grain to the half ounce. After that, I snip off the iris close to the cornea, then place a little spatula in the entrance wound, give it a twist, and the iris withdraws and drops into the anterior chamber, producing a clean-cut iridectomy. (See Pennsylvania Medical Journal, August, 1907, and *Injuries of the Eye*, H. V. Wurdemann, 1912.)

Lacerated and Incised Wounds of the Eyelids

Sometimes, by doing what might be called meddlesome surgery, we obtain worse results than we should by letting things alone. Some years ago, I had the case of a young chap struck in the left eye by a piece of flying steel. It cut through the upper lid and the tarsal plate, laying the eye completely open. Enucleation was advised, but refused. The patient was put to bed, and ice pads were used. The lid lay in position so nicely that it was decided to let it alone. The lid was cut entirely through, and ordinarily we should have gone to a lot of trouble to bring the edge of the lids close together. Surprisingly, the result was perfect, with practically no notching—less than that following a suture. Since then, in a number of lacerated incised wounds of the lid, in which the eye was simply cleansed, washed out with cyanid of mercury, then treated with ice pads, perfect union has been secured.

Metal-Splash Burns

Very early in my career, I had two patients that taught me a very wholesome and valuable lesson. One of these was a young woman who had been curling her hair with a curling iron which had slipped and struck her in the eye. The cornea was white, and looked as if a skin had been drawn over it. The routine treatment of hot pads and atropin was started, with the expectation that the cornea would slough. Twenty-four hours afterwards it was perfectly clear. It had been only an epithelial burn.

Another patient about the same time had a hot-metal-splash burn at the sclerocorneal margin. It was not large, and we did not expect it to amount to much, but in spite of everything we could do the eye was lost. In burns, especially metal-splash burns, the prognosis should be guarded, because it is impossible to tell how far from the piece of metal itself heat coagulation has taken place and destroyed the vessels of the tissues so that it will cause sloughing.

In many of these burns there is an intense edema of the lids, so that it is almost impossible to open the eye. It has been our routine practice to use atropin, 2 grains to the half ounce, but instead of using distilled water, to use mercury cyanid, 1 to 3,000, and sterile olive oil every three hours. The oil soothes the inflammation, and makes the patient more comfortable. Hot packs are kept up continuously, because this is a necrotic process. Sometimes, in spite of everything, sloughing goes on and extends into the cornea, causing the loss of the eye. In many cases, however, good results are secured.

Metal-splash burns sometimes result in a union of the eyelids or a beginning symblepharon. In some of these cases, operation should not be advised too readily. Some years ago, when about to start for a vacation, I had a patient with symblepharon. As I did not want to operate then, he was advised to stretch it every day, pulling down the lower lid and pulling the upper lid until it hurt. He did so, and three or four months later, the symblepharon had pulled away so far that it was not necessary to operate. Ever since then, I have resorted to stretching, and it always does some good. If it does not cure completely, operation can be done later.

Summary

The three points emphasized in this talk are: (1) the value of atropin after the removal of

foreign bodies in the cornea, even very small and unimportant ones; (2) the use of hot pads in lacerated wounds of the eyelids; and (3) the stretching of a symblepharon before a surgical procedure is attempted.

ABSTRACT OF DISCUSSION

WILLIAM M. SWEET, M.D. (Philadelphia, Pa.): I agree with Dr. Heckel that, in cases of deeply embedded foreign bodies in the cornea, especially those made by particles of emery or steel, not only the foreign body but also the surrounding stain should be entirely removed. A sharp spud or knife needle will usually suffice; but in many instances, the stain can be removed only by curettement with a broader instrument. A set of burrs was introduced by an instrument firm some years ago for this purpose, but they were too large. For the past two years I have employed the finer burrs of various sizes and shapes used by the dentists, inserted in a small pencil-shaped chuck which may be obtained from manufacturing jewelers. The complete removal of the stain so that a clean wound is secured insures healing within twenty-four hours.

I do not believe that atropin is indicated except in the few instances where there is considerable infection and excessive congestion of the eye. In the ordinary case of foreign body no cycloplegic is used. Occasionally a drop of homatropin is employed. Atropin prevents a man from returning to work for several days; whereas, with homatropin, the eye is placed at rest for several hours, and the man returns to work the next day with the corneal wound healed. In practically every case, after removal of the foreign body and stain, the conjunctival sac is filled with a sterile ointment of either boric acid or yellow oxid of mercury, and a sterile pad is used to keep the eye closed until the patient reaches home. He is directed then to apply cold compresses, and given an alkaline lotion to be used every hour or two.

GEORGE H. CROSS, M.D. (Chester, Pa.): I wish to endorse all that Dr. Sweet has said concerning the use of the corneal burr. Its chief use is to remove the oxidized tissue remaining after the removal of a hot-iron foreign body embedded in the cornea. For this purpose there is nothing better. It successfully removes the stain, and destroys the sharp cut edge, leaving a smooth surface less likely to provide a place for the lodgment of bacteria.

More than thirty years ago my father used a Bowman needle as a spud, and in an attempt to improve it, angled the tip so that the point would be more easily seen and used. I have been using one of these old needles for the past seventeen years.

After removal of a foreign body from the cornea, the best treatment is to touch the area very carefully with carbolic acid. This is analgesic, forms a coating, and also acts as a dressing. The average workman will remove a pad from his eye because of its interference.

Homatropin following the removal of a foreign body has usually been quite sufficient in my experience, except where the area has been carelessly treated by some one not thoroughly trained in first-aid work, or where the cornea is badly injured. Then, of course, atropin is indicated.

Among 4,541 cases of ocular injury in industrial work which I have recently reviewed, there was only one of symblepharon. Stress should be laid on its prevention, and if care is exercised in handling such cases, using sterile vaseline or albolene, or in case of extreme irritation and pain, an ointment of adrenalin and holocain, there will be less tendency for the areas denuded by the burn to become adherent.

DR. HECKEL (in closing): I do not see how an annular deposit in the cornea could possibly be removed with a burr, although it can be taken out with a Bowman needle intact. Of course, what works well in the hands of one man fails in the hands of another.

With over 5,000 eye injuries to treat in a year, I have not found that homatropin lasts long enough in cases requiring curettement. A drop or a half drop of one-per-cent atropin may be inconvenient, but the patient suffers less with it.

After removal of a foreign body and curettement of a corneal wound, the hole sometimes fills up with a grayish, translucent mass of dead epithelial cells—perhaps a beginning infection. This should be curetted with cotton rather than with a metallic instrument. For this purpose, we use a cotton carrier and cotton dipped in mercury cyanid 1 to 3,000, and it seems not only to cleanse the wound, but to induce more rapid healing.

Prevention is always better than cure, because it means that the thing never happens. In some cases of metal-splash burns, the formation of a symblepharon could not be prevented without a complete change in the fundamental biologic laws governing the healing of wounds.

REPORTS OF TWO UNUSUAL CATARACT CASES

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TRAUMATIC CATARACT WITH RESTORED TRANSPARENCY

P. L., a boiler maker, aged 28, while straightening a piece of pipe was struck in the face by something. He felt nothing in his eye, but about two hours afterward noticed that something was wrong with the left eye. There was no pain, but later, the vision began to get somewhat dim, and became progressively worse.

Six days later he was sent to me by his family physician. The eye was quiet, with a cataractous lens. Upon dilatation, there was found to be a small clear area at the temporal margin. This was not sufficient to afford a clear view of the fundus. A tiny wound of the cornea could be seen in the nasal quadrant. X-ray examination showed an extremely small metallic foreign body in the vitreous, far back in the lower temporal quadrant.

Under local anesthesia, an incision was made in the globe between the external and inferior recti. The large tip of the Sweet magnet bringing no result, the small tip was inserted into the globe to a point as near the locality of the foreign body as could be judged. The bit of steel was removed, and the conjunctiva sutured. Recovery was uneventful.

Within a week after operation, the lens was appreciably clearer than when last seen. About two years after, the only opacity seen was the

small tract where the steel had passed through the lens. Visional acuity measured 6/30, and there was a fairly high astigmatism. The right eye being normal, the patient refused glasses.

The interesting features of the case are the lack of discomfort after injury, the unusually small foreign body—scarcely larger than a grain of dust, and the restoration of transparency in the lens.

ELECTRIC CATARACT

Cataract resulting from electric shock is sufficiently rare to warrant the reporting of a case, even if, aside from the cause, the case presents no unusual features.

In the limited time at my disposal I have been able to find reports of but a small number of cases. Some of these had, in addition to electric shock, burns of the face. The number of cases of pure shock without facial trauma is very small indeed.

The voltage in these cases seems to make little difference, one case, at least, resulting from as low as 110 volts (the ordinary lighting current). The amount of shock from electricity is probably as much controlled by the conductivity of the ground as by the voltage and amperage. This accounts for the number of deaths resulting from the touching of electric-light fixtures while in a bathtub. In these cases, the victim gets the full effect of the current, owing to the highly efficient ground which is present under these conditions.

As to the train of results after the shock leading to the opacification of the lens, there have been several theories. It was thought by some that the shock caused coagulation of the albumin content. This has been disproved by experimentation. Repeated shocks do not cause any opacification in a lens taken from an animal's eye (Hess). One writer (Vossius) believed that an iridocyclitis after the shock might be a cause. This theory is scarcely tenable, as iridocyclitis is only occasionally present. The theory of Knies, that extreme contraction of the ciliary muscle during the shock might cause dislocation or disassociation of the lens fibers, is not tenable. Contraction of the ciliary body relaxes the zonule and does not affect the lens, at least not directly.

Probably, the explanation given by Hess, which is the result of much painstaking experiment and keen observation, is the proper one. He found, after subjecting rabbits to shocks from Leyden jars, that the first change noticed was a degeneration of the epithelium of the anterior capsule. Fluid collects between the capsule and the lens fibers. Vacuoles appear in the lens fibers, and they undergo disintegration. Therefore, according to Hess, electric cataract is caused by death of the epithelium of the lens produced by shock.

J. S., 46 years of age, a well-built, white American, while working as a lineman, came in contact with a power line carrying a 22,000-volt current. His right leg was so badly burned as to require thigh amputation. Three or four weeks afterward, while in the hospital, he noticed failing vision, worse in the left eye. When seen by me fifteen months later, he had in the right eye a beginning cortical cataract, quite diffuse, with a visual acuity of 6/15. The left eye showed a subcapsular cataract, very dense in the center, with the surrounding cortex translucent. With this eye, he could see only the shadow of a hand.

Ten months later, the vision of the left eye was reduced to light perception, and combined extraction was performed. The cortex was soft and sticky, and the capsule quite tough. Four months later, a capsulotomy was done, using de Wecker scissors, with good results. The visual acuity with correction amounted to 6/9+3. The capsule was very tough indeed.

The lens in the right eye became more and more cataractous, and six years after the injury, combined extraction was done. The same capsular condition was found as in the left eye. A few weeks later, capsulotomy by the de Wecker method was done with good results.

When the patient was last seen, eight years after the injury, his vision with correction was 5/5 less 2 in the right eye, and 5/5 in the left.

The only point of interest in his case, aside from the causation, was the tough, leathery capsule.

INTERSTITIAL KERATITIS LUETICA

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The protean sequelæ of syphilis hold no graver threat than that of blindness. Interstitial keratitis and its concomitant inflammation of the deeper eye promise in each instance some diminution in visual acuity, the degree of loss being determined by the density and location of the corneal and vitreous opacities, and the site and scope of the uveal destruction. This keratitis is essentially a manifestation of the so-called tertiary stage of syphilis, and a broad classification recognizes two forms—congenital and acquired. The dominant form is the congenital, but as the etiology, pathology, and treatment are synonymous, the two forms can be classed and treated as the same disease, the prognosis being the only variant. A milder invasion, earlier response to treatment, and consequently less disastrous se-

quelæ alone distinguish the acquired from the hereditary form.

The recognition of interstitial keratitis from the ophthalmic picture alone permits slight opportunity for error. Nevertheless, the diagnosis should be verified by hemal and, if indicated, spinal Wassermann tests.

The diagnosis established, the agent, mode, quantity, and quality of treatment remain to be determined. The management of keratitis is a prolonged and irksome procedure, fraught with disappointments and uncertainty alike to physician and patient. The treatment outlined below, however, eliminates much of this uncertainty, and diminishes the possibility of disastrous consequences, immediate or remote.

Methods of treating disease in general have recently been greatly augmented by many new and some valuable therapeutic agents. Of these, a greater number do not survive the ordeal of time and service, and are consigned to oblivion. A few constitute a definite advance, and after proper evaluation are added to the medical armamentarium. Bismuth and the arsenicals, without doubt, fall within this classification—as therapeutic aids, with certain definite and well-marked limitations, in the treatment of syphilis. When these are administered, the rapid subsidence of the visible evidence of the disease has caused the fact to be ignored that time alone is the ultimate criterion of all measures used in its treatment.

This fact is forcibly emphasized by the history of many tertiary syphilitics today. Few are they who do not tell of the use of arsenicals alone or combined with inadequate mercury treatment. The effectiveness of these drugs in alleviation of the urgent visible symptoms of the early stages of syphilis cannot be denied; yet it is not the symptoms that must be treated, but the disease. Today, while the arsenicals might be administered as aids in primary or secondary syphilis, treatment with mercury should also be carried out as though they had not been administered.

In view of these conclusions, our routine in all cases of interstitial keratitis, both in private work and in the service of Dr. Heckel at the Allegheny General Hospital, is as follows:

Diagnosis is established by physical examination, presenting ocular symptoms, and the Wassermann test, either blood or spinal, or both. Qualitative and microscopic urinalyses are performed to eliminate the presence of a kidney lesion that might contraindicate mercury therapy. In the absence of contraindications, mercury is started immediately and intensively. If evidence of a nephritis is shown, the mercury treatment is inaugurated by a smaller initial dose, and increased more cautiously up to the point of kidney tolerance. The presence of a low-grade nephritis accompanying tertiary syphilis is more frequently an indication for than a contraindication to the administration of mercury, benefit to the nephritis being coincident with benefit to the other manifestations of syphilis because the etiology is frequently identical.

The oral cavity is subjected to a thorough inspection, and deviations from normal in teeth, gums, and mucous membranes are eradicated. The subsequent care consists of thorough brushings three times daily with a soft brush and a solution of sodium bicarbonate, milk of magnesia, or potassium chlorate. This oral prophylaxis is essential, as upon the condition of the mouth depends the higher mercury dosage and the comfort of the patient.

The diagnosis established, limitations charted, and field prepared, the physician is then ready energetically to attack the disease. Here, emphasis must be laid on the statement that it is not the symptom interstitial keratitis that must be treated, but syphilis the disease; and that mercury remains the drug of choice in tertiary syphilis because it approaches nearest a specific, due to its permanency of action when given properly over an adequate period of time.

The salt of mercury we prefer to the exclusion of all others is the bichlorid, administered by mouth and in solution. The oral route is chosen to assure an accurate, immediate assimilation of a definite dosage of a potent drug that is always under definite control. We prescribe a 6-ounce aqueous solution containing 3 grains of mercury bichlorid and 5 grains of sodium chlorid, the sodium being added to assure the solubility of the mercury. Contraindications being absent, the initial dose of 1 dram, or 1/16 grain of mercury in half a glass of water, is instituted three times daily after meals. Tobacco, as well as acid fruits and vegetables are forbidden as a prophylactic against oral and gastro-intestinal irritation. As rapidly as consistent with absence of saturation signs and development of drug tolerance, the dosage is increased to 2 drams, or ⅛ grain, three times a day.

Constant surveillance is maintained over the kidneys by frequent urinalysis. Should the kidney irritation already present increase, or further symptoms develop, it should be met by an immediate decrease of the dosage to an amount just short of that which precipitated the kidney crisis. In no case in our records has this revision been necessary. In the absence of the afore-mentioned caution signs from kidneys or alimentary canal, the dosage is further increased

until they do occur, or until the keratitis is favorably influenced. The object is to affect the syphilis immediately, keeping the patient just short of the toxic stage. Should anemia develop during this treatment, it may be successfully combated by the addition of Fowler's solution in the prescribed dosage.

The local treatment consists of tridaily instillations of a collyrium of 1-per-cent atropin sulphate, combined with 5 to 10-per-cent dionin in a 1-to-3,000 mercury-cyanid solution.

Realizing that this treatment exceeds the published dosage of a potent drug, we repeat that a long-standing, often inadequately treated case of tertiary syphilis cannot be influenced by homeopathic dosage, nor is it expedient, in view of the pernicious sequelæ, to waste valuable time or good mercury.

This form of treatment is presented, not as something new, but simply as the application of time-proven principles in the treatment of syphilis. While the dosage of the bichlorid may seem excessive, we have used it exclusively in this form and dosage with good results over a period of thirty-five years. The results more than justify the means, both as to symptoms and permanency. Until more convincing evidence is forthcoming of the permanency of action of the offered mercury substitutes, we feel that without adequate mercury the patient is deprived of his greatest assurance of the future well-being, both of himself and of his progeny.

A SIMPLE METHOD OF MAKING AN ETHER DROPPER

GEORGE W. REESE, M.D.
SHAMOKIN, PA.

One of the essentials of the operating room is the administration of ether drop by drop. This can be accomplished by simply pushing a hypodermic needle with the wire in it through a cork, and then pulling the wire out, thus forming an ideal dropper.

The advantages of this method are: (1) The flow can be controlled by changing the angle at which the can is held. (2) It is always ready. (3) It costs nothing, as the hypodermic needle is always on hand, and the cork comes with the ether can. (4) The one cork can be used for an indefinite length of time with the same needle. It is only necessary to be sure that the wire is inside the needle when the cork is entered.



Fig. 1. Ether can with dropper made by inserting hypodermic needle through cork.

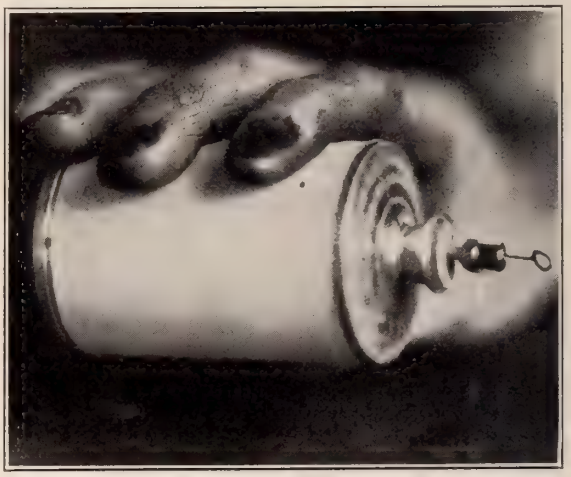


Fig. 2. Showing the "dropper" in use.

Whether or not this particular method has ever been published, I do not know. However, I have been in a great many operating rooms, and have never seen it employed. We have been using it at the Shamokin State Hospital for some time, and have found it very practical.

Mail A. M. A. Directory Information Card Promptly.—During the month of June, every physician in the State should have received a Directory information card. Every one is urged to fill out and return the stamped card regardless of whether or not the residence or office address has been changed. This information will be used in compiling the tenth edition of the *American Medical Directory*, now under revision in the Biographical Department of the Association. The Directory is one of the altruistic efforts of the Association, and is published in the interest of the medical profession, which means ultimately in the interest of the public. It is a book of dependable data concerning the physicians and hospitals in the U. S. and Canada.

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EDITORIALS

INDENTURE OF CHILDREN

Sprinkled through the statute books of Pennsylvania for two centuries are enactments which provide for the "binding out" of minors through indenture or apprenticeship. Under these laws, children have been bound for a number of reasons, and in a variety of ways. The instances of the use of indenture group roughly into three classes. First, there is the purely educational and industrial apprenticeship which is the lineal descendant of the guild system, by which a young person and his parent or guardian agree that he shall work for a master craftsman in accordance with stipulated conditions and in return for the education afforded him in some "art, mystery, occupation or labor." The second class of indentures emphasizes the idea of the rights of custody which a child-caring agency or institution may acquire through voluntary agreement on the part of the parent or through court commitment, and may exercise in the interest of holding the child for protection and education as against the rights of custody of parents or other natural guardians. The indentures to Girard College and similar institutions are of this type. The third kind of indenture is the form of agreement by which the custody of a child is transferred from a public official or a child-caring institution or agency to those who are offering him a foster home. In other words, there was engrafted on the medieval system of trade education, laws and customs which sought to control custody and child placement. It is around this last use of indenture that the most troubles seem to cluster.

In its purest essentials indenture implies a contract in which the labor of the child is one of the principal considerations. This idea has been articulated in a good many court decisions, and has also found expression in one of the eighteenth-century statutes still effective in Pennsylvania. According to this, an indentured child who leaves his master or mistress without permission and before the term of his indenture has expired is liable after he reaches the age of twenty-one to the master or mistress, "their heirs, executors or administrators," for the value of the service withheld through his absconding.

As the statutes were interpreted, children might be apprenticed or indentured, apparently for any kind of work or service. In 1811 there was a court decision which upheld the indenture of a child as a chimney sweep, the occupation which was one of the storm centers in the early nineteenth century battles for the reform of ghastly abuses of child labor which then existed. Another decision held that it was entirely proper to apprentice a child as a domestic servant, because "it will require time and instruction to make an expert waiter, and one so instructed will receive wages ten times above that of an untaught servant."

There must have been cases of children apprenticed to such wholly inappropriate occupations as begging and singing and playing on the public highways, for we find statutes expressly prohibiting indentures to these callings.

Out of such background it is not surprising to find that the child placing in foster homes on the indenture basis now often amounts to little more than the supplying of child labor for domestic service and on farms. The only mitigating circumstances for young children thus placed have been the compulsory-school-attendance laws. The enforcement of these, however, in many country districts and elsewhere used to be, and sometimes still is such as to make them weak reeds on which to lean.

Recent investigations by the United States Children's Bureau into the condition of inden-

tured children offer little ground for supposing that their status has improved greatly in recent years. Such suspicions are aroused by some preliminary investigations in a few counties in Pennsylvania. In one it was found that children were being indentured by the poor-law authorities as late as 1922 under agreements which literally follow a form prescribed in the 1630 edition of Dalton's "Covntrey Iustice.....gathered for the better helpe of such Iustices of Peace as haue not beene much conuersant in the studie of the Laws of this Realme." In 1924 it was found that the authorities responsible for placement of these children had no information or ideas of what had become of many of them. Enough sick and maladjusted children had been thrown back on their hands, however, to indicate that indenture is a crude and primitive instrument with which to perform a delicate and complicated operation.

A careful survey of the indenture system of the Wisconsin State School was made by the United States Children's Bureau in 1923. The results are carefully and impartially analyzed and appraised, and all of the restraints incident to an official report are present in its bulletin on this subject. Nevertheless, the picture is one to haunt the memory. The following is an instance of what can happen to dependent children when no one is aggressively and actively on guard for their interests.

> The G.'s owned a farm of 480 acres and 50 head of cattle. Mr. G. was said to have plenty of money, but he employed no help. Into this family, Christina, 11 years old, and her twin brother, Oscar, were indentured over five years before the study. The school was 2½ miles away, and the children had an average attendance of only 55 and 62 days a year for three years. But they passed their eighth-grade examinations except arithmetic, and they were to have returned to school to complete that subject, but had never done so. The Children's Bureau agent found Christina working in the barn—at the time, 16 years of age, undersized and underweight, and shabbily dressed. Mrs. G. said Christina did a great deal of the cooking and cleaning and also helped with the milking. Christina liked to read, but she had no time to do so. Oscar was not seen by the agent, but he was said also to be below average weight and height.
>
> A neighbor stated that Mrs. G. was in poor health and went away every month or so for treatments. At these times Christina did all the housework. The neighbors felt that the foster parents expected an endless amount of work from the two children.

This was by no means an isolated case. Others equally bad were found. In fact, of 540 indenture homes inspected, the Children's Bureau rated 8 per cent as high grade, 44 per cent as satisfactory and 48 per cent as positively detrimental to the child's welfare.

This report also contains illuminating information which indicates the possibilities for superior child care through good foster homes.

The Children's Bureau reports that in 1926 there are still twelve states with indenture laws on their statute books. The Children's Commission of Pennsylvania, which was appointed in 1923 to study and suggest to the Legislature revisions of the statutes relating to children, immediately noted indenture as one of the conspicuously obsolete features of the Pennsylvania law. Its present plans contemplate a report to the 1927 Legislature on this subject. The facts that there are a number of statutes still operative, and that the legal and social practice ramifies in several directions, make careful study essential both for a valid and thorough repeal and for the substitution of more modern measures.

Among these more modern measures are provisions which tighten up the requirements on those taking the responsibility for engaging in the practice of separating parents and children and of selecting foster homes. There are few places in the child-caring field where more damage can be done than in slipshod child placement.

DOCTORS AND NURSES

The following very timely editorial recently appeared in the Philadelphia *Public Ledger:*

> Doctors and nurses should be partners in the gentle art of healing; and if they are not, the patient incurs additional suffering. At the Health Congress in Atlantic City it has been urged that the nurses shall be given an opportunity to study mental hygiene, so that their still more intelligent coöperation with the physician may be assured. That the trained nurse should be all that the name implies and that she should have every opportunity to acquire the technic of her calling is a thesis that does not need defense. But the leaders in her noble profession will be the first to insist that a little learning is a peculiarly dangerous thing in this connection; and a superficial acquaintance with an ism or an ology is by no means to be construed as science. If the proposed hygienic courses are thoroughly given and conscientiously assimilated and applied, they may make the nurse a still more useful professional assistant; but those who are mindful of the acquired prestige of the calling will take care to see that it is not impaired by any who, on the basis of a smattering, pretend to be profoundly informed.

It appeals to us that much could be done to change the curriculum required of nurses training schools in most of the states. Many of our members believe that the course of study demanded by the Board for Registration of Nurses of Pennsylvania calls for revision. There are certain subjects with laboratory requirements that are out of all proportion to the needs of the nurse. It would seem advisable that there be a curtailment of the excess amount of class work, in order to devote more time to the teaching of

practical nursing. The disproportion in this regard is marked. When one considers the number of hours devoted to class work, the time off for luncheon and dinner, and the time allowed off each day for recreation, one becomes very much impressed with the relatively small amount of practical nursing each girl does in a training school.

It is of interest to note, too, that no one connected with a school of medicine can become a member of the Board of Medical Education of Pennsylvania. Acting upon the same principle, why should there not be a requirement that no one connected with a nurses' training school would be eligible for appointment on the Board of Registration for Nurses of Pennsylvania.

HELP FOR THE DOCTOR

Under this caption the following very interesting editorial appears in a recent issue of the *Saturday Evening Post:*

The Medical Society of the County of Kings, Brooklyn, one of the oldest in the country, has just established the interesting precedent of admitting laymen to associate membership. The avowed reasons for this novel departure are that the inclusion of influential citizens would create friends of medical progress and enable the public to assist the profession in its efforts to restrain unqualified practitioners and prevent the employment of harmful methods. Whether or not this plan will work out as effectually as its sponsors hope still remains to be seen. In the meantime it can scarcely be regarded as anything but a step in the right direction.

There are other fields than that of popular medical education in which laymen can do much to further the efforts of physicians. Thousands of lives and vast sums of money are annually exacted as tribute to unscrupulous nostrum venders. There are dozens of so-called consumption cures and cancer cures which do a tremendous amount of harm, owing to the fact that faith in them keeps persons away from competent practitioners until it is too late to save their lives. There are means of coping with this growing evil, but they are in the hands of legislators and business men and not in those of the doctors.

There is another matter in which physicians stand in grave need of the coöperation of the lay public. Compulsory vaccination laws are under fire. Bills have been introduced in state legislatures which, if they became laws, would prevent the manufacture of smallpox vaccine, diphtheria antitoxin and most other biological products which play so large a part in modern medicine.

If the comparative inactivity of physicians and men of science is a trustworthy index of their reaction to these attacks, even they do not perceive the reality of the menace which threatens their calling and all the millions whose lives depend upon its free and proper exercise. Unless the situation is promptly and vigorously taken in hand it will inevitably become worse before it can become better.

The Medical Society of the County of Kings, Brooklyn, is very active in all endeavors to instruct the public properly, and is to be commended upon the altruistic work it has undertaken and is continuing with such excellent results. One of the very valuable features of its program on the education of the public is the printed matter which is being distributed, and at a big cost to the society.

It will be of interest to ascertain the practical help that will accrue from admitting laymen to associate membership. This easily can be accomplished by any county medical society, by adding a by-law permitting such a procedure, the same as has been done by some county medical societies in order to admit dentists to associate membership.

The editorial herewith quoted challenges "the comparative inactivity of physicians and men of science" in regard to certain matters to which it would seem that we are showing an apparent indifference. It is needless to say that it is a duty which we owe to the citizens to safeguard their interests. We must always be on the alert, and it behooves the medical profession to be "On Guard" at the next session of our State legislature. Now is the time for concerted action in looking forward to a health-legislation program at Harrisburg for 1927.

SCIENTIFIC RESEARCH AND THE MEDICAL STUDENT

While we appreciate the value of scientific research, we cannot help but be impressed with the fact that it is being featured to too great an extent in the medical schools today. The medical schools are not to blame for this condition of affairs. Mr. William Potter, former president of the Jefferson Medical College, during the year previous to his death, deplored the unfortunate situation of scientific research, its untoward effect on medical education, and its end-result—the graduate. He maintained that the Jefferson Medical College should devote itself to the proper preparation of its students for entrance into the field of general practice.

It is of interest to note that Dr. Harvey Cushing, professor of surgery at Harvard, who delivered the commencement address at Jefferson Medical College in June, issued a warning against the increasing tendency of medical schools to sacrifice general instruction for scientific medical research. He also warned against "over-specialization," as a plea for the cause of the vanishing family doctor. Dr. Cushing said that "in some of our schools too much emphasis has been laid on the scientific and research side of medicine to the detriment of the practitioner side. Many young men, as a result, on graduation day, think they must devote themselves to research, rather than to general practice. I look to the day

when the pendulum will swing back to the ways of former days, when science will not be neglected, but when adequate representatives of the clinical departments of medical schools will be appointed to teach the practice of medicine."

ESOPHAGEAL WEB

When a patient complains of dysphagia the physician must decide whether this symptom is due to a functional or organic stricture. The diagnosis of functional stricture is often made without any serious or careful investigation, and as a consequence the condition is often found later on to be due to organic disease.

Among the organic causes of dysphagia one thinks of carcinoma of the esophagus, rarely of syphilis; of an intrathoracic growth pressing on the esophagus; of enlarged glands in the mediastinum; and of aneurysm. If it occurs in a young person who is neurotic, neurosis, functional spasm, or cardiospasm should be considered. Various congenital anomalies, webs, and pouches may also cause sudden attacks of dysphagia.

According to Dr. Harris P. Mosher, what is often diagnosed as cardiospasm is dysphagia due to an esophageal web, which may occur in the lower part of the esophagus, back of the liver, but more frequently back of the cricoid cartilage at the beginning of the esophagus. He states there are two kinds of webs—congenital and acquired. The latter are due to inflammatory ulceration, usually in a narrow portion of the esophagus, and most frequently back of the cricoid cartilage at the beginning of the esophagus.

Normally, the epiglottis closes the larynx like a lid closes a box. On either side is the pyriform sinus. In swallowing, some food and liquid flows to the side into the pyriform sinuses, and these lead into the mouth of the esophagus. In case of ulceration in this region, webs form which cause liquids and food to collect in the sinus on one or both sides. In consequence, the sinus becomes dilated and forms a pouch. Food and fluids collect in these pouches, and when there is an overflow into the larynx, the patient suffers from choking until he becomes afraid to eat.

This condition has often been diagnosed as globus hystericus, and the passage of a bougie relieved the patient. The treatment was good and effective, but the diagnosis was usually wrong. The passage of the bougie caused slits in the web and thus relieved the obstruction, and the patient could swallow without difficulty. These slits were discovered with the esophagoscope when a large tube was used (a small tube may be passed by the web without noticing it). The x-ray man will not find the webs unless he x-rays the side of the larynx. He often examines the lower part of the esophagus only, and misses the web that is at the upper end or back of the cricoid cartilage. The treatment recommended by Mosher is the passage of a bougie or dilator to stretch or cause a slit in the web, or if it is suitably situated to bite it out.

If on x-ray examination of the lower part of the esophagus there is found a stringlike structure with dilation of the esophagus above it, with a history of continued difficulty in swallowing over a period of months or years, the chances are that the condition is one of cardiospasm or stricture of the terminal portion of the esophagus. If there is not much dilatation and the dysphagia is of shorter duration, and there is an irregular outline of the esophagus, the probable cause of the obstruction is malignancy. When due to enlarged glands or aneurysm, there are usually other symptoms and physical signs that point to the correct diagnosis.

When unable to account definitely for the dysphagia, do not forget the possible existence of an esophageal web, before making the diagnosis of a functional spasm of the esophagus. When the web is at the beginning of the esophagus there is not only difficulty in swallowing, but at times the characteristic choking, due to food getting into the larynx, and this should suggest the advisability of a careful investigation.

CARE OF THE FEEBLE-MINDED

The two most pressing needs now facing the State Department of Welfare, according to its Secretary, Dr. Ellen C. Potter, are added facilities for the care of feeble-minded men and women, and accommodations for the doctors, nurses, and attendants. Dr. Potter urges that the State bond issue of the session of 1927 be worked for, "in order that we may be in the strategic position to proceed with a building program either out of current revenue or out of the bond issue, depending upon the condition of the State's finances, as the need is great for housing the State's dependent wards, and those who must take care of them (doctors, nurses, attendants, guards)."

The seriousness of the need today is due to the accumulated neglect of the last thirty years, during which time there has been no central authority whose duty it was to plan for present and future needs. The most pressing fall into two groups: First, the need for a great increase

in the provision for the care of feeble-minded women and men. This means the rapid expansion of Laurelton State Village for Women by at least 1,500 more beds, and the creation of an entirely new institution for defective delinquent males. This latter would relieve the penitentiaries, jails, and reformatories of a large percentage of their population, and would enable classification of male prisoners in a way not now possible. This classification would simplify the treatment and discipline of prisoners to a great degree. The second is better quarters for the doctors, nurses, and attendants in the State institutions. This would affect not only the morale of the hospitals' staffs, but their efficiency in caring for the patients.

SUPPORT FOR SCIENTIFIC RESEARCH

The *Medical Journal and Record* tells us: "The National Academy of Sciences has recently announced that it is sponsoring a plan to obtain immediate financial aid for pure science research, to be carried on in the United States, to offset the commercial trend which, they contend, most scientific investigation is taking. The announcement states that Secretary Hoover as chairman of the special board of trustees seeking to obtain this aid, has received expressions of endorsement from thirty university heads in this country."

This movement should receive hearty support, for it is scientific research (often done under the most adverse conditions) that has made possible the present development of civilization. It has been unfortunate, however, that the people have not realized the important bearing it has on their lives, for scientific research has received scant support except from such commercial firms as have used it as a means to increase dividends. This is perfectly legitimate, and has resulted in giving us many practical applications of principles that would have been unknown had the money to pay for research equipment and materials not been forthcoming from this source.

There is, however, a place for noncommercial research, for study that will benefit the world without seeking a financial return to the investigator. Many diseases are still a mystery, we are just touching the borders of that fascinating field of radiant energy—the electromagnetic spectrum, the study of heredity has just begun, the social and psychological sciences are ripe for development. But the worker is worthy of his hire. He has to live, and his family has to live, and it is up to those who will benefit by his work to support him while he is carrying it on. Research work, up to the present, has been done largely in a missionary spirit, and those who devote themselves to it must needs put away from them dreams of opulence.

It is a short-sighted policy to permit such conditions to continue. Difficult as it is to formulate plans to support this most valuable fraction of the population while guarding against imposition by fake research workers, it is a subject that will repay a thousandfold any thought expended in working out an organization to put it across.

Secretary Hoover is a splendid man to head such work, and it is to be hoped that he and his board of trustees will find ready support in this project.

CASUALTIES IN BUILDING TRADES

To minimize accidents and cut down the loss of life and time, members of the Philadelphia Chapter of Associated Pennsylvania Contractors recently discussed ways and means toward this end. The meeting was held under the auspices of the Philadelphia Safety Council. The reporting in Pennsylvania of 20,253 accidents, with 245 deaths, during 1925 calls for drastic action. It is needless to state that many of these accidents are unnecessary. The statistical report is not such as will afford a comparative study of the casualties in building trades in comparison with other occupations.

If foremen and workmen can be made to realize the necessity for proper precautions along safety lines, much will be accomplished in reducing the number of accidents. Accidents may be attributed to faulty setting up of building equipment, to the carelessness of men working at high altitudes, the absence in many plants of a definite safety program, the improper assignment of men on the job by the foremen, the falling of objects, the falling of persons, and the improper handling of objects (the latter three constituting about 50 per cent of the cases). The largest percentage of fatalities was incident to electricity, such as cranes, derricks, cars, and engines, and every effort should be made to safeguard the use of the electric current.

Statistical studies are of value to show where the greatest danger exists, and when and where the greatest precautions must be exercised. In the final analysis, it shows the absolute necessity of workmen adopting safety measures, and efficiently carrying them out in every building program. The foremen and workers must coöperate, and be continually alert.

Physicians who are in daily contact with industry, whether part or all time, should be in close touch with the statistical study of casualties, and should lend every assistance in formu-

lating a safety program. They should consider it part of their duties to be in continual touch with the efficiency of the safety program, changing it when and where indicated, to safeguard the employee.

DENTISTS AND THE SESQUI

The Seventh International Dental Congress which will be held in Philadelphia in August, will be the first meeting of the international body since 1914, when it was precipitately adjourned by the outbreak of the World War with practically no business transacted. The last dental congress in Philadelphia was held in 1904.

It is expected that over 15,000 dentists from all over the world will attend the session. By the demonstration of its achievements the Congress will establish dentistry more firmly than ever before as a healing art, and will witness its recognition therein by the medical profession and the public.

The demonstration by scientific and clinical research of both dental and medical professions, will show that unhygienic and unhealthy conditions of the mouth and teeth have a direct bearing on the bodily health. The Congress will celebrate the eradication from the public mind the idea that the practice of dentistry is a mechanical art. It will celebrate the great development of the oral-hygiene movement by which the general health of the child of preschool age, the school child, and in short every human being is preserved by preventive treatment administered by the dentist. One must bear in mind that during the World War, 10,000 dentists were enrolled. This will be signalized.

Clinics will be held, and the reading of papers, and scientific exhibits of dental progress will be featured. Dentistry's important part in the rehabilitation of the soldier, dental legislation, dental education, and military dental surgery will be important topics of discussion.

HELPING THE BLIND TO HELP THEMSELVES

During the past year there became operative an Act passed by the State Legislature, administered by the Department of Welfare, designed to be helpful to those who are totally blind or who are unable to do ordinary work on account of impairment of vision. This agency is known as the State Council for the Blind. The duty of the Council is "to formulate the general policy of the State in this regard, to make recommendations in accord therewith to all public and private agencies concerned, to coöperate with all State and local agencies engaged in promoting the personal, economic, social, and civic well-being of the blind, to collect and systematize information with regard thereto, to refer cases for relief to the most appropriate agencies, and in addition to supervising State appropriations for the blind, to encourage the coöperation of all public and private agencies to the end that further means of preventing blindness may be developed." The primary object in the establishment of the Council was to promote the conduct of such work of physical, moral, and mental development as to permit Pennsylvania to be included among the States that are doing their full share for the sightless.

It is estimated that there are over 6,200 in the State who have less than one tenth of normal vision, more than half being 60 years of age. Those under 20 are the ones most capable of training. In a recent study of the pupils discharged from the Pennsylvania Institute for the Blind at Overbrook between 1907 and 1923, out of 337 now living, only 18 per cent are classed as dependent.

It is interesting to note also, in this connection, that there are now twelve sight-saving or "conservation-of-vision" classes in Philadelphia's school system for children who have more than one tenth of normal vision and less than one half, and that over one hundred and fifty pupils are thus receiving special instruction under direct city auspices.

CO-OPERATION OF THE PHARMACIST

Pharmacy is the handmaid of the physician, and there are many ways in which coöperation may be secured between the two professions. Of interest is a series of ads. in a Chicago, Ill., daily newspaper, by one of the pharmacists in that city, under the title of "Little Chats About Your Health." One of these is as follows: "The surest way to insure a continuance of good health is to challenge illness whenever its approach is suspected. You must be your own sentry, but you have the finest medical skill obtainable to fall back on. Challenge promptly the cold which is followed by a little fever or a chill—challenge chronic constipation, challenge headaches which continue to trouble you, challenge all the vanguard of trouble which often follows apparently minor ailments. Your physician should be called promptly whenever trouble is suspected. Bring us your prescriptions. Your physician will recommend our service."

At the 1925 session of the Tennessee State Medical Society, the following was adopted: "Resolved, That all druggists in Tennessee who

desire the promotion of medical science be requested to discontinue the sale of nostrums and quack medicines, and that in our purchase of drugs and medicines we will prefer such as may adopt this course."

This is worthy of emulation by all the state societies. It seems incredible the number of drug stores maintained by physicians, that continue this nefarious practice. Such physicians should be considered ineligible for membership in a county medical society.

THE COUNTY SOCIETY REPORTS

The attention of our readers is called to the wealth of interesting material which appears in our county society reports. It is our aim and endeavor so to edit these reports as to increase their effectiveness, eliminating all but the meat of each article so that the most information may be condensed into the shortest space. Their mission is mainly to keep the county societies in touch with one another, to aid in solving mutual problems by telling of methods which have been found successful, and to share with others the good things that have been presented at the meetings.

To increase the value of these reports, the reporters are requested to send short abstracts of the papers read, and not to rest content with giving simply the titles. When this is done, these reports furnish much profitable instruction to those of our membership who take time to read them carefully.

It is suggested that reporters also, before preparing their manuscript, turn to this department in a previous number of the JOURNAL, and note the general form and make-up of the reports. This will be of considerable assistance to the editorial department, and may obviate the necessity of rewriting such a large proportion of the manuscripts. It is always well to bear in mind, too, that short articles will be read when long ones will be passed by for lack of time. So condense, and then condense again, and then have the manuscript neatly typed, leaving plenty of margin and at least a double space between the lines.

THE UNDERGRADUATE AND THE SPECIALTIES

There is need for change in the attitude of our medical schools as well as the undergraduate student body toward the specialties—particularly the eye, ear, nose, and throat. Our young men enter the profession with a somewhat disinterested feeling and a lack of knowledge of the fundamental methods and basic procedures of diagnosis of the ordinary and frequent diseases of the eye, ear, nose, and throat.

There seems to be a sense of apathy, an attitude of passive interest, a feeling of wasted effort, among undergraduates, so that the matter is left almost entirely to the prospective specialist. This passivity reacts against the future physician himself, and curtails, hampers, and limits his attempts to fathom the many ills of humanity. Strong efforts should be made to stimulate more hearty interest in the student body toward conditions which often mean so much to the patient and the doctor in active practice.

Undergraduate teaching of these specialties should be simple, fundamental, and entertaining. Stress should be laid upon the relations of local (so-called special) pathological conditions to the general economy, and vice versa. There is too much segregation. Specialism is overdone.

For the good of the profession as well as the layman, and to the discomfiture of the charlatan, let us attempt to obtain the coöperation of the undergraduate, so that, even though he does not intend to practice a particular specialty, he may feel that he cannot afford to cut lectures and practical demonstrations, and thus allow the opportunity of obtaining a working knowledge of diagnosis and management of diseases of the eye, ear, nose, and throat pass by. He will then be better fitted to give advice that will redound to his credit, and also promote the welfare of his patients.

JOTS AND TITTLES

SCIENTIFIC GOSSIP

Reports by the Rockefeller Foundation of only three cases of yellow fever in all the Americas during 1925 (in Northern Brazil) are an inspiration to continued study of the means of relieving humanity of still more of its disabilities.

Two recent reports have been received of discoveries in the field of anesthesia. A drug consisting of piperidin derivatives, said to be superior to cocain, was described at the regional meeting of the American Chemical Society at Madison, Wis., on May 23d. As was detailed in the JOURNAL last month, 5 per cent of carbon dioxid mixed with 95 per cent of oxygen greatly hastens recovery in cases of carbon-monoxid poisoning. It has also been found useful to facilitate elimination of narcotic vapors, and is now being administered following ether anestheisa. Dr. C. N. Chipman, of Washington, D. C., has recently come forward with the announcement that a mixture of 25 per cent of carbon dioxid and 75 per cent of oxygen will produce anesthesia without any unpleasant sensations. The anesthesia, however, does not last after the carbon dioxid is withdrawn, so that Dr. Chipman supplements it by administration of ether. The carbon dioxid, he claims, increases the coagulability of the blood, and decreases the tendency to hemorrhage.

After ten years of experimentation, Prof. Arnold

Luckhardt and Myron Weaver, of the University of Chicago, have announced the isolation of the hormone of the mucous membrane of the small intestines. A fluid has been obtained which, when injected, is said to stimulate the flow of pancreatic juice.

That blood can reveal sex is claimed by Dr. Dewey G. Steele, of the University of Wisconsin. Diluting the blood serum of cattle a hundred times, treating it with certain chemicals, then adding a few drops of methyl-green dye, the mixture, if the blood is from a female, will turn green, and red if from a male.

The glistening, transparent "paper" used to wrap candy boxes has been turned to practical account by Donna E. Kerr and H. W. Hill, M.D., Director of the Vancouver General Hospital Laboratories, according to the *Vancouver Medical Association Bulletin* for February, 1926. For silver nitrate, sodium chlorid, and glucose, its dialyzing powers have proved perfect, and exposure to fifteen pounds of steam for twenty minutes in an ordinary laboratory autoclave left it unchanged in appearance, feel, or dialyzing powers. This product—cellophane by name—should prove most useful in laboratory work, as with any household cement, sheets of it may be made into tubes, flat, square, or round bags, or diaphragms of it may be cemented across bowls, beakers, or glass tubes. Perhaps some one now will be stimulated to test its value for surgical dressings.

It seems strange that with our splendid biological resources, snakebite antitoxin is not manufactured in America. At present, it is available only when it is presented to the New York Zoölogical Society as a gift, according to "Mann Hatton," writing in the Philadelphia *Public Ledger*. It may be secured on application to Dr. Raymond L. Ditmars, curator of mammals and reptiles at the New York Zoo in the Bronx Park. Dr. Ditmars extracts the poison from the rattlesnake by firmly grasping the snake by the back of its neck, pressing the head down with a rod, and applying the reptile's jaws to a parchment-covered glass jar. When it bites through the parchment, the fangs discharge a jet of poison. This poison is then sent to Sao Paulo, Brazil, to the Institute of Serum Therapy, where horses are gradually immunized, and serum prepared much in the manner of diphtheria antitoxin. It is an absolute specific for snake bite, curing patients that are almost *in extremis*. Rattlesnake serum, however, is worthless in treatment of the bite of any other snake, each species requiring its own antitoxin.

Interesting Recent Publications

A series of eight charts, graphically presenting the work of the American Social Hygiene Association has been received at the editorial office. These are well prepared and attractively printed in blue and black on a white background. Those who are interested in this important work may obtain additional information by addressing the Association at 370 Seventh Avenue, New York, N. Y.

Miss Gladys L. Melocke, of the University of Wisconsin Home Economics and Extension Staff, in a bulletin on fitting shoes for all the family urges that style must give place to comfort. In order to be comfortable, the shoe must be of sufficient length and width, and if it fits properly, it will tend to make the person walk correctly, with toes pointing straight ahead instead of outward.

The sixth edition of *Diagnostic Standards of the National Tuberculosis Association* is now ready for distribution. Copies may be secured free of charge by any physician on request to his state tuberculosis or public-health association, or to the National Tuberculosis Association, 370 Seventh Avenue, New York, N. Y. The text of this edition has been completely rewritten and revised by an expert committee under the chairmanship of Dr. John A. Smith. The booklet should be very helpful in the diagnosis and classification of cases of pulmonary and glandular tuberculosis.

Medical Practice by Nurses

The York County Society report in this issue of the JOURNAL contains an interesting account of a meeting between a committee from that society and members of the State Board of Medical Education and Licensure. The following letter has since been received by Dr. P. A. Noll, of the York County committee, from Dr. I. D. Metzger, president of the Board:

"Confirming the information given to your committee at the meeting in Harrisburg on the 21st instant, I desire to state that registered professional nurses have no legal authority to practice any form of the healing art within the State of Pennsylvania. The R. N. degree, which they receive after passing the prescribed examination, credentials their efficiency as nurses, but does not give them any legal right to practice on their own account. Their work is supposed to be conducted in conjunction with that of the physician, who makes the diagnosis and outlines the treatment, checking up thereon from time to time, and assuming the responsibility of the case.

"Regarding first aid, any one may give this to safeguard the patient until such time as he may be transferred to a physician or hospital. The first-aider need have no particular preparation for the work, but he must not presume to continue treatment. A nurse is bound by the same restrictions. Several years ago the State Board, by resolution, declared that this first-aid care should not extend over twenty-four hours within the state, since a physician is available within that time in all parts of the state.

"The law can be enforced only by prosecution after violation. If you know of nurses who are violating the medical act within your district, it is your duty as guardians of the health of the community to make information against these persons upon the evidence which you have. An example or two by prosecution would soon clear the atmosphere, and inform those who are attempting to go beyond their prerogatives. The investigators employed by the Board will be glad to aid you in this matter."

Regarding Modification of Quarantine Regulations

There is considerable agitation within the state to abolish or modify quarantine regulations in German measles, mumps, and chickenpox, medical opinion being divided on the question. The Allegheny County Medical Society has recently taken a poll of its members, and reports that 566 members returned a marked ballot, 149 voting approval of the present quarantine regulations in mumps, 154 in German measles, and 143 in chickenpox; 123 voting to modify present quarantine regulations in mumps, 123 in German measles, and 122 in chickenpox; and 294 voting to eliminate present quarantine regulations in mumps, 282 in German measles, and 292 in chickenpox. Roughly, about 25 per cent of the members favor the present quarantine regulations, 25 per cent favor a modification, and 50 per cent favor elimination of quarantine in these three diseases. The Allegheny County Homeopathic Medical Society has also passed a resolution endorsing the movement to eliminate these three diseases from quarantine.

INCREASING INTEREST IN THE RISING GENERATION

More and more the public conscience is accepting its responsibility for providing an opportunity for normal development of handicapped children. According to a recent report of the United States Bureau of Education, Massachusetts has authorized its State Department of Education to coöperate with the school communities of not more than six towns in the establishment of classes for deaf pupils. A Michigan act has authorized the board of education of any school district to provide special classes for deaf and also for blind pupils. A Minnesota law now empowers the State Commissioner of Education to establish and maintain special classes for deaf children, where five or more such children may attend, and a state subvention of $250 per child is allowed. The legislatures of Illinois and Michigan passed acts in 1923 authorizing local school boards to establish and maintain classes for crippled children, and in each case the state grants funds in aid of these classes. A New Jersey act authorizes counties to participate in the maintenance of homes and hospitals for crippled children. Pennsylvania, however, does not appear to be a leader in this procession of hope. Why not?

Over in France a law has been passed making illegal the manufacture or sale of baby "pacifiers." Would that the women of the entire world could be induced to adopt this "French creation."

The medical inspectors of the public schools in the South Philadelphia district east of Broad Street began in May to immunize school pupils "so that there will be no more diphtheria in Philadelphia." The injection of the toxin-antitoxin is given only with the consent of the parents. In the West Philadelphia district, where the first notices of the proposed immunization were sent to parents, within a week more than fifty per cent asked that their children be given the treatment. During the past year more than 20,000 persons have been immunized in the public-health centers of the city. Because of this popular response to the appeal, the Board of Education has given parents the opportunity to have their children immunized by the regular school doctor free of charge. In Philadelphia there are about 40,000 babies born each year, and each year there are about 4,000 cases of diphtheria. Of these cases, about 400 die. The present campaign is to immunize all children. Those who are not immunized in the West Philadelphia district and South Philadelphia district east of Broad Street will have to wait until next fall unless they go to their regular physicians or health centers. After the present immunization, the principal effort will be made to have children immunized when they are one year old.

CHILDREN'S BUREAU IS SESQUI FEATURE

One of the most interesting and comprehensive of the educational features of the Sesqui-Centennial exposition, dealing particularly with children, has been prepared by the United States Department of Labor. An important feature of the Children's Bureau exhibit will be a "sunlight balcony," where a demonstration of the method of giving sun baths to babies will be given. Dr. Martha M. Eliot, whose work in the study of rickets has attracted wide attention, and who is now director of the child-hygiene division of the Children's Bureau, is in general charge of this work, as well as of the physical examinations of children during the exposition.

Special demonstrations of other phases of health for children will also take place under the direction of the Bureau. A posture demonstration is planned for September, in connection with which children will have silhouettes made to show their own posture, each being graded excellent, good, poor, or bad, and exercises to correct poor or bad posture being demonstrated. This work will be under the direction of Miss Leah Thomas, of Smith College.

Motion pictures will show conditions affecting child welfare found by the Children's Bureau as a result of its investigations and activities. The work done among the mothers and babies of forty-three states under the Maternity and Infancy Act, which is administered by the Bureau, will be illustrated in this way. Child labor among children in factories and canneries, in sweat shops, and in other occupations will be presented pictorially. Standards of care for the mentally and physically handicapped child, as well as for the dependent and delinquent child, will be illustrated by pictures.

Physical and mental examination of infants and preschool children will be conducted by physicians and nurses in the pavilion. Children will be examined by appointment in the order of application, and the examinations will be visible to the public through the glass walls of the pavilion, the purpose of the Bureau being to demonstrate the need for and the procedure in such examinations. Dr. Susan P. Souther, now stationed at the Children's Bureau rickets clinic in New Haven, Conn., will be in charge, assisted by nurses. The Pennsylvania State Department of Welfare is coöperating with the Bureau in the examinations, and will carry on a demonstration "habit clinic" for children also.

SUPPRESSION OF THE DRUG EVIL

Colonel Arthur Woods, former police commissioner of New York, on May 31st told the League of Nations Advisory Commission at Geneva that violation of the narcotic laws could best be checked by international police coöperation, leaving to diplomats the task of suppressing the production of raw materials from which these drugs are made.

TOO MUCH PUBLICITY

Our sympathies go out to royal mothers and their medical attendants when we read of the British custom which requires that at least one Cabinet member be in the room when a royal baby is born, in order to guard against substitution of another infant. We sympathize also with the embarrassing position in which Sir William Joynson-Hicks must have found himself when he was present at the recent birth of a grandson of King George and Queen Mary. Even though history has proved the wisdom of having witnesses to the birth of a possible heir to the throne, and the custom is general in royal families, yet we cannot but feel that at this trying time every woman has a right to the utmost of privacy, and that those present should be limited strictly to the necessary attendants and such members of her family as she may wish to have. Furthermore, the high character of the physicians and nurses who attend royalty should be sufficient guarantee that a spurious heir will not be substituted for the rightful one.

PUBLIC HEALTH

The Camp of Instruction.—The Seventh Annual Camp of Instruction was held at Mont Alto Sanatorium on the 21st, 22d, and 23d of June. The Camp this year specialized on tuberculosis. Emphasis was laid upon the advantages of rest, heliotherapy, pneumothorax, special nutrition classes, and upon the treatment in the home of tuberculosis patients unable or unwilling to go to the state or county sanatoria. Among others,

the following prominent speakers took part in the conference:

Dr. H. R. M. Landis, Chief of the Clinical and Sociological Departments, Henry Phipps Institute; Dr. Eugene Opie, Director of the Pathological Department, Henry Phipps Institute; Dr. Stephen Douglass, who is in charge of the Milbend Demonstration in Cattaraugus County, New York; Mr. Edward Bochhauser, Executive Director of the Committee for the care of Jewish Tuberculous, New York City; Dr. Nathan Barlow of the United States Veterans' Bureau; Miss Mary Carter Nelson, Field Advisory Nurse of the New Jersey Tuberculosis League; Dr. Ward Brinton, Director of Division of Tuberculosis, Department of Public Health, Philadelphia.

This year's meeting was limited for the most part to the Health Department staff, physicians connected with the various tuberculosis clinics throughout the state, and a number of representatives from coöperating agencies.

How One Village Secured Medical Service.—The village of Altura, Minnesota, with a population around 250, and a near-by farming section of about 200 people, has until recently been without medical service, according to an editorial in the *New York Times*. A health association was formed in the community, and a physician secured through an advertisement in a medical journal which offered to the man selected his choice of several forms of guaranteed income. The first pledged to him the patronage of 125 families at $24 a year; the second made a like guarantee, but the doctor was to practice on a fee basis, and only when his receipts fell below $3,000 was the association to be assessed for the remainder; the third was a promise to secure as many families at $24 a year as possible, who should have first claim, but the doctor was free to accept outside practice.

Why Should Public Health Lag Behind Knowledge?—Dr. William H. Welch, in his opening address as chairman of the recent tuberculosis and health conference in New York City, made a plea for the wider application of the great public-health discoveries of the last few decades. Commenting on the use of these discoveries, Dr. Welch said:

"When a Koch discovers the tubercle bacillus, a Banting discovers insulin for the relief of diabetes, a von Behring antitoxin for the cure of diphtheria, or a Park demonstrates the value of toxin-antitoxin for the prevention of diphtheria, the world draws a long breath as if saying to itself, 'Now we are rid of that terror which has haunted the human race for centuries.'

"It then straightway forgets and goes on its way, comfortably assuming that of course the great discovery or invention is being carried into effect.....

"The actual facts are quite different. A few people, those of unusual initiative or ample means, or who happen to be under the care of exceptionally alert physicians, or within the jurisdiction of exceptionally competent health officers, receive the benefits of the new discoveries, but the great mass of the human race goes on as before, and the death rate from these diseases is reduced slowly and over long periods of time."

A New Survey Shows Bovine Tuberculosis Decreasing.—Coöperative tuberculin testing by Federal, state, and county forces, has reduced the percentage of tuberculous cattle in the United States from 4 per cent in 1922 to 2.8 per cent in 1926, according to a survey completed May 1st by the United States Department of Agriculture. The report shows that most of the infection is confined to a comparatively small area. Practically 73 per cent of the "reactors" yet to be condemned are contained in 411 counties, while the other 23 per cent are scattered throughout the remaining 2,658 counties.

About So-Called Insanity

Some Misconceptions That Still Linger

1. That insanity comes suddenly.
2. That once insane always insane.
3. That insanity is a disgrace.
4. That insanity is an unfortunate visitation to be regarded with resignation and fatalism.
5. That mental disease is incurable.
6. That asylums for the insane are dreadful places, and that admission to them rings down the curtain on the lives of the victims.
7. That emotional shock, the loss of dear ones, disappointment in love, economic loss, and other human misfortunes cause insanity.
8. That insanity is a specific disease entity.
9. That nobody can guard against mental disease.
10. That a person is either sane or insane.
11. That "nervous breakdown" is a disease of the nerves.

What Science Is Teaching Today

1. That insanity develops gradually over shorter or longer periods of time.
2. That many of the insane are restored to health after a period of hospital treatment.
3. That insanity is a condition no more to be ashamed of than pneumonia or a broken limb.
4. That insanity is mental disease and should receive medical attention, just as tuberculosis, cancer or other physical conditions.
5. That many persons with mental disease are being cured today and restored to health and normality.
6. That our asylums are being turned into hospitals in which the insane receive medical care and treatment, and from which between 25 and 40 per cent are discharged recovered or improved.
7. That personal misfortunes and tragedies are frequently the precipitating causes of insanity, but that the accumulation of a variety of factors inherent in the progressive life experience of the individual is really responsible for unsettling mental balance and bringing on mental breakdowns.
8. That "insanity" is a convenient term used by the courts to denote irresponsibility in the eyes of the law, and that there are many different kinds of mental disorder just as there are many kinds of physical disorder.
9. That there are usually danger signals and symptoms of an approaching breakdown that can be recognized and medically dealt with.
10. That there are different degrees of mental health, just as there are varying degrees of physical health.
11. That "nervous breakdown" is in reality a mental condition in which there is seldom anything organically wrong with the nervous system.—*Mental Hygiene Bulletin.*

INDUSTRIAL MEDICINE

Silicosis Among Miners.—This study begins with a review of the literature, which is followed by a discussion of the conditions promoting silicosis, including the chemistry of the important silicosis-producing dusts; the effects of rock dust on the lungs; the stages of silicosis, with x-ray photographs of fibrotic chests; methods of determining silicotic dusts in air; methods of protection against dust, such as wet drilling and the use of water sprays and water blasts. In his discussion of the advantages of periodic medical exam-

inations, the author points out the importance of the initial examination of prospective miners, and the advisability of rejecting men suspected of either tuberculosis or silicosis. The interrelation of silicosis and tuberculosis is one of the main themes of the paper. The author describes the experience of the physician in diagnosing and preventing silicosis, together with the measures found by the mining engineer to reduce dustiness, in a way which makes this paper an especially useful contribution.—R. R. Sayers, abstracted in the *Journal of Industry and Hygiene,* February, 1926, from U. S. Bureau of Mines, *Technical Paper 372,* 1926.

Health of Workers.—L. I. Dublin, in the *U. S. Monthly Labor Review* for January, 1925, states that "the industrial workers of the country, taken by and large, may be distinguished by a marked diminution in their longevity from those who are engaged in other forms of employment, such as agriculture, the commercial and professional pursuits, etc." He gives forty-two years as the expectation of life of men at 20 engaged in industry, against fifty years' expectation time for men of the same age not in industry. He lists the following factors as among those responsible for this reduction: accidents, tuberculosis, pneumonia, degenerative diseases such as cerebral hemorrhage, nephritis, and organic heart disease. He suggests as remedial measures the education of the medical profession and of workers, the enlistment of the coöperation of employers, and the establishment of industrial clinics in connection with the large general hospitals.

Industrial Health a Purchasable Commodity.—Dr. Schram, in *Safety Engineering* for May, 1925, estimates that $5 is about the average cost of medical service per employee per year.

Standard First-Aid Treatment.—The *Nation's Health* for August, 1925, published the recent revision of the standard methods for first aid in industry, as made by the Conference Board of Physicians in Industry, and adopted by the American Association of Industrial Physicians and Surgeons.

A New Venture in the Field of Industrial Relations.—The Massachusetts Society for Mental Hygiene issued about November 15th the first number of a new bulletin entitled *The Human Factor,* which will be published quarterly as a definite part of its program. It will be expressly gotten up for the busy executive in business or industry, and will be largely concerned with the innumerable every-day problems of industrial relations. It will appeal strongly to employers, personnel workers, educators in stores or factories, management executives, employment managers, physicians, and all others who are in any way concerned with the human factor in business or industry. The subject matter will be presented in nontechnical language, and will be sound and practical. It is hoped in this way to bring the principles of mental hygiene into the everyday life of business and industrial institutions, to make positive and definite contributions to the health and happiness of workers, and to add to their productivity. This bulletin is published under the direction of Dr. Henry B. Elkind, Medical Director of the Massachusetts Society for Mental Hygiene, 5 Joy Street, Boston, Mass.

"The Human Side of How to do it Best" is the title of an interesting discussion of industrial psychology and fatigue, by A. W. Sanders, in the *Journal of Industrial Hygiene* for December, 1925. He gives three types of fatigue: (1) Due to work done for which the worker is temperamentally not suited. (2) Due to making unnecessary motions. (3) Caused by unsympathetic surroundings. The first is caused within the nerve centers, and by its very nature produces general fatigue. The second is local, and becomes general only when increased to such an extent that the local functions can no more cope with it. The third is a kind of mental fatigue; it produces general fatigue, but its cause is external.

Among methods of fatigue elimination in industry he discusses vocational selection, motion study, and harmonizing of the surroundings. Fatigue elimination in the office in large modern industries is much aided by the increasing use of charts showing at a glance the absolute and relative value of production data.

The aim of business is to sell something for more than it has cost, thereby making a profit; and the chief problem today is how to lower the cost without lowering wages. Industrial psychology can help to attain this end by lowering the human energy required to do work, thereby decreasing the time required in production.

The application of industrial psychology equally benefits the worker and the employer. Too much stress, however, cannot be laid on the fact that the worker benefits first, and only as a result of this, the employer. It is the first step in humanizing industry.

Third Progress Report of Committee on Benzol.—This bulletin of 15 pages reviews the history of the investigation of industrial benzol poisoning which began in 1923, and occasioned two previous reports. At least 7 fatal cases have been brought to the attention of the committee during the first 9 months of 1925 in which no attempt at a systematic canvass has been made, indicating how grave is the problem.

Where benzol is handled in large quantities, as in its manufacture, blending of motor fuels, and chemical industries, closed systems are required. Here, chronic poisoning plays but a minor rôle, but acute cases due to carelessness or breaks in the system are the rule. In these industries, however, it seems certain that the substance can be handled safely. Where benzol is used otherwise than in enclosed systems, as in rubber, leather, canning, dry cleaning, the use of paints, varnishes and stains where benzol is largely allowed to evaporate, we have the principal reasons for chronic benzol poisoning. Studies have chiefly been carried on in these processes. The crux of the whole question is whether systems of local exhaust ventilation are adequate. Studies of a year ago suggested that they might be. The studies reported herein throw grave doubt upon this. Concentrations of vapor have been observed, ranging from 0 to 4,140 parts of benzol per million parts of air. Undoubtedly, concentrations greater than 200 parts per million are distinct hazards. Conditions are much worse in winter. Where benzol is evaporated without local exhaust, high concentration of the fumes results. With ideal local exhaust ventilation, large quantities can be used without heavy contamination.

We have, in the examination of the blood cells, a reasonably simple test for benzol poisoning. The results of these clinical studies on the blood of workers are distinctly disconcerting. With local exhaust systems, 3 men out of 22 gave characteristic tests of benzol poisoning; without local exhaust, 10 out of 19 gave positive results. Some tests have shown, however, that large quantities of benzol can be handled with local exhaust, keeping concentrations down to 105 parts per million; yet here, 1 out of 3 workers proved positive to the benzol-poisoning test. "Even with exhaust ven-

tilation of a good type, giving atmospheric benzol concentrations of less than 100 parts per million, the hazard from the use of benzol is evidently not entirely removed." Such systems of ventilation are rare also.

"We are forced to conclude that the use of benzol (except in enclosed mechanical systems), even when the workers are protected by the most complete and effective systems of exhaust ventilation, keeping the average concentration of benzol in the workroom air below 100 parts per million, involves a substantial hazard. We would urge the desirability of discovering harmless substitutes for benzol for use in any process where this is feasible." Otherwise, workers should be safeguarded by the best possible exhaust systems and systematic monthly medical examinations.

A part of the report is concerned with a study of the toxicity of the homologues of benzene—xylol, toluol and Hiflash naptha. Investigations thus far have shown these substances to be relatively free of poisonous properties. Inhalation experiments are now being made to substantiate this conclusion.—Chemical Section, National Safety Council, Chicago, Ill., September, 1925.

Accidents in Philadelphia Industrial Plants for the first four months of this year show an alarming increase of 44 per cent over the first four months of last year, the Citizens' Safety Committee of the Philadelphia Chamber of Commerce recently was told by William J. Maguire, of the Bureau of Statistics, Pennsylvania Department of Labor and Industry, who declared the increase could be traced to the prevailing condition of industrial unrest. Accidents of all kinds have increased eleven per cent over the first four months of 1925. Mr. Maguire said that instability of local industry is the only cause that can justifiably be assigned for the upward leap in the casualty columns. It is not merely a question of too much speeding of production. As a matter of fact, fast production has little or nothing to do with it. It is more than anything a question of the attitude of the employee to the manufacturer and vice versa. The employee in industry at present does not appear to be giving his best and steadiest work to his employer. The latter, faced with this situation, manages his plant too haphazardly. There are periods of depression when the workings of the plant slow down to a snail's pace, immediately followed by periods of intense production. As a consequence, safety standards are dangerously lowered.

Figures showing that horse-drawn vehicles are not the safe, reliable transporters pictured in comparison with motor vehicles were given by the speaker, who said that in proportion to their numbers, horse-drawn trucks figured in considerably more accidents. He was unable to give any reason for this situation, but cited it as a fact proved by statistics.

When the Citizens' Committee resumes active work at the beginning of the next fiscal year in the fall, a series of safety classes will be given, to which foremen of industrial plants in the city will be invited as students.

HOSPITAL ACTIVITIES

Committee on Nurse-School Grading.—The Committee on the Grading of Nursing Schools, at a meeting held in New York City, April 14, appointed May Ayres Burgess, Ph.D., as director of study. The Committee is made up of representatives of the national nursing organizations, the American Hospital Association, the American College of Surgeons, the American Medical Association, and representatives of educational groups and of the public. Dr. Burgess will have her headquarters at 370 Seventh Avenue, New York City. The following resolution was adopted by the committee as a statement of program: "Resolved, That it be the program of the Committee on the Grading of Nursing Schools (a) to conduct studies of the fundamental facts and factors determining an efficient nursing education, and (b) to formulate and apply tentative standards for the grading and classification of nursing schools, both lines of work to proceed together. The studies of fundamental facts and figures shall cover three distinct fields of inquiry: the need and supply of nurses and other nursing functionaries; the occupational analysis of the nursing service as to knowledge, skills, traits, etc., required; and the current status of existing facilities for the training of members of the nursing profession.—*Hospital Management.*

Reading Hospital Adopts Flat Rate for Maternity Cases.—Reading Hospital recently put into effect a schedule of flat rates for maternity work which has met with considerable approval. The new schedule provides accommodations in a two-bed room for two weeks for a flat sum of $50. This charge includes all hospital fees, such as care of the infant, all laboratory work and delivery room charges, but, of course, does not include the fees of the attending physician. A similar flat rate of $40 for two weeks in the wards also is available. In either case, it is understood that patients requiring hospitalization over a longer period than the two weeks will pay an additional rate per diem in the semiprivate room of $4.00 a day and in the maternity ward of $3.50 a day. Reading Hospital has a similar system in vogue in other departments. The system, as developed thus far, is of some help to the accounting department by eliminating the necessity of going into detail and the necessary itemizing of bills.—*Hospital Management.*

This brings to mind an occurrence in one of our large hospitals, which renders an itemized statement for all patients. A patient admitted to a private room on the maternity service, was unfortunate in having a still birth, incident to forceps delivery. When the husband was presented with an itemized statement for the first week, he noticed a charge of $3 for a beaded necklace, which the institution uses on all babies born in the hospital. He asked the office why he was charged for the necklace when one was not used because the baby was a still birth. He was advised that it was a routine charge to all maternity patients. Although the husband paid the bill, he continues on all occasions to refer to the injustice of the charge made, and proves to be a "bad advertisement," for the hospital in question. This is an instance where a flat rate would have obviated a bad explanation, and the creation of an enemy of the hospital.

Hospital Publicity.—There are many ways in which the community may be attracted to the hospital, in so far as publicity is concerned. The kind of publicity to be encouraged is that which will bring the people to the hospital. This is accomplished most frequently by cake and candy and other sales, on the lawn, or in the hospital. A very good "stunt" was recently held at the Lancaster General Hospital, when mothers and their children who had been born at the hospital during the last year were the guests of the management, nurses, and auxiliary. There are many attractive possibilities in this latter idea, such as a baby show and other features.

Responsibilities and Rights of Hospitals in Regard to Records.—This paper is the report of a special committee of the Ohio Hospital Association, and the formulation of the opinion of this committee was adopted by the Association as a guide to hospitals of the

state, in dealing with various problems involving records. This report will serve as a guide to other hospitals in these matters, and it is one of the first, if not the first, presentations in this form of such suggestions.

The welfare of the patient demands that a complete, accurate, and truthful history, physical examination, laboratory report, treatment record, and progress notes be recorded and filed; and the hospital, in obtaining such records, obligates itself to maintain the confidential status of such records, as fully as the physician is obligated in respect to the case. As the medical record is for the benefit of the patient, he is entitled to a copy, or an abstract of it, should he so desire. If he is sick in another hospital, or if he is attended by another physician, the other hospital or physician, at the request of the patient, should be furnished a copy of his history, but in either of these instances it is well that the request be in writing, and that it state the purpose for which the medical record is desired. Wherever medical records are kept, relatives, friends, and insurance companies repeatedly ask to have supplied some of the information they contain. These requests should always be refused, unless on the written order of the patient or his representatives. The hospital has no right to presuppose that even the wife has the full confidence of her husband, or that the insurance company is always acting in the interest of the patient.

Should insurance companies or medical investigators desire statistics, or even abstracts of cases, for purposes of medical research, these should be furnished, provided it can be done in such a manner that the identity of the patient is not revealed. In other words, the medical record as a personal record is available for the patient or the physician to whom he has entrusted his care. As an impersonal record, it is available for purposes of medical research and instruction. In this way, the medical record may attain its greatest usefulness in benefiting the patient and in aiding medical science without in any way losing its confidential nature.

Information of public interest concerning patients should be furnished to the newspapers by the hospital on request, unless forbidden by the patient or attending physician. In the case of a person sent in as a private patient by a physician, this information should not be given out except with the consent of that doctor. Such information should be confined to a statement of the name, social history, character of the injury, and condition of patient during the course of treatment. No information should be given concerning a disease, the name of the physician in attendance, the treatment, or detailed manner of contracting disease or receiving injury.

The x-ray record is an integral part of the patient's case record, and should receive the same consideration as any other part of the record. A court cannot subpoena a record or issue a subpoena to a hospital to produce a record. A court may subpoena a representative of the hospital, directing him to produce a record in court, but it is not within the power of the court to take the record from the actual possession of the witness, to produce from the record the privileged and confidential information contained therein, except by consent of the patient. The property right to the x-ray plate and the information concerning it, when taken for the purpose of treatment, is vested in the patient alone without regard to who pays for it, which right cannot be transferred to any one except by the patient; except, however, that in the case of x-ray plates made for an individual, company, or corporation, when such plates are not made for the purpose of treatment, or are not made for the information of the physician in charge of the patient, the property right is in the individual, company, or corporation at whose instance and expense the plates are made.—*Hospital Management.*

How Cost Fluctuates.—Miss Mary V. Stephenson, superintendent of the Hospital of the University of Pennsylvania, Philadelphia, in her latest annual report goes into great detail concerning expenditures by the month. A feature of this table is the average maintenance cost per patient per day on the monthly basis. According to this chart, the respective figures were: 1924—July, $5.86; August, $5.52; September, $5.50; October, $5.13; November, $4.71; December, $5.69; 1925—January, $5.66; February, $5.12; March, $4.76; April, $4.74; May, $4.50; June, $5.54; average, $5.19. —*Hospital Management.*

Uniform Records.—The Conference Board of Physicians in Industry has adopted a standardized terminology, and is making an effort to stimulate greater uniformity in the keeping of medical records in the industrial cases.—*Hospital Management.*

Small-Town Hospitals Face Knotty Problem.—The small town is entitled to the services of a hospital if it is at all possible to maintain a house of healing in such a locality. There are always emergency cases arising which ought to be taken to a hospital close at hand. But the fact of the matter is that in our day of hard roads it is the cities of fifteen thousand population and upward, with good railroad facilities, which are the strategic places for the erection of up-to-date hospitals equipped with the most modern facilities, including x-ray and laboratory apparatus. The young surgeons are not strongly inclined to locate in smaller towns, but are seeking the centers where up-to-date hospital facilities are available for their practice. It would even appear that many persons who live close to small-town hospitals prefer going to hospitals located in larger cities where a good pathological examination can be made, leading to an accurate diagnosis of the disease, which manifestly will speed the recovery of the patient. In these strategic places, clinics are being established here and there which are sought by the public in general to determine physical ailments. With these facts facing the smaller hospitals, in many of which up-to-date x-ray and laboratory facilities cannot be maintained because of lack of sufficient business for the upkeep of such equipment, a problem is presented which must in some measure be solved by the hospital people for the benefit of unfortunates who may need immediate medical attention such as the small town hospital affords. The subject is one for debate, and ought to be thoroughly aired at our coming hospital conventions, and if at all possible some economic basis of supporting such hospitals ought to be proposed to the managers of the small-town hospital.—*Hospital Management.*

Library Coöperates.—A recent issue of the *Hospitaler*, published by the Decatur and Macon County Hospital, Decatur, Ill., contains an interesting article describing the coöperation that exists between the hospital and the local public library. Each Wednesday a librarian from the public library is on duty in the hospital. She has at her command a specially constructed book cart, made in the hospital shops from an old wheel chair, and her supply of books was purchased for the exclusive use of patients in the hospital. The books have all been selected carefully, special emphasis being laid on volumes that would be likely to interest children in the convalescent stage.—*Hospital Management.*

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Bldg.,
Pittsburgh, Pa.

CALL TO THE 1926 SESSION

The first meeting of the 1926 House of Delegates of the Medical Society of the State of Pennsylvania will be called to order in the Bellevue-Stratford Hotel, Philadelphia, on Monday, October 11, 1926, at 3 p. m.

The following proposed amendments to the Constitution and By-Laws will be presented for action. Several of the proposed amendments have been submitted in time for action of the 1926 House of Delegates by the committee appointed last year to revise the Constitution and By-Laws. The full report of this committee will be published in the September JOURNAL, and will contain suggestions regarding additional amendments which the committee believe should be presented to the 1926 House of Delegates for discussion, action on same, however, to be postponed until 1927.

CONSTITUTION

ARTICLE IV

SECTION 2.—Beginning on line 8 strike out the words "The assessment of new members elected and reported between July first and November first shall be one-half the annual assessment." If this amendment is adopted, all newly elected members will be required to pay the full year's dues.

SECTION 5.—In line 4, after the word "participate" insert the word "only." Strike out the words "They shall not be entitled to vote, nor to hold office, nor be eligible to membership." The adoption of this amendment will merely eliminate verbiage.

ARTICLE V

In line 3, after the word "delegates" insert the words, "or accredited alternates." This amendment provides for the official recognition of alternates to the House of Delegates.

In line 7 strike out the word "secretaries" and insert the word "presidents." In line 8 strike out the word "secretary" and insert the word "president." In line 9 strike out the word "president" and insert the word "secretary." This amendment was introduced in 1925 for action of the 1926 House of Delegates. If adopted, the secretary of a component county society will automatically become a delegate from his society, and the president will become the alternate, reversing the present arrangement.

ARTICLE VIII

SECTION 1.—Strike out the word "ten" in line 3 and insert the word "eleven." This amendment was introduced to provide for an increase in the number of trustees and councilors if certain proposed amendments to the By-Laws are adopted.

SECTION 1.—In line 2 strike out the words "four vice presidents" and insert the words "a vice president."

SECTION 3.—Amend the first sentence to read as follows: "Two trustees shall be elected by the House of Delegates annually, except each fifth year when three shall be elected, to serve for a period of five years." The adoption of the proposed changes in Chapter III would result in readjustment of the councilor districts and the creation of a new district, these changes being based upon the recommendations of a committee of the Board of Trustees. The duties of district censors and the method of their nomination and election would remain unchanged. Censorial districts, however, would be eliminated.

BY-LAWS

CHAPTER I

SECTION 2.—In line 2, after the word "section" insert the words "in session."

CHAPTER II

Omit Section 7, renumbering present Section 8, Section 7.

CHAPTER III

Amend subject heading to read "Councilor Districts."

Amend Section 1 to read as follows: "The State of Pennsylvania shall be divided into eleven councilor districts, and each district shall be entitled to one councilor. The councilor districts shall be composed of the following counties:

First Councilor District: Philadelphia County.

Second Councilor District: Berks, Bucks, Chester, Delaware, Montgomery, and Schuylkill Counties.

Third Councilor District: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, and Wayne Counties.

Fourth Councilor District: Bradford, Columbia, Montour, Northumberland, Susquehanna, Snyder, Sullivan, and Wyoming Counties.

Fifth Councilor District: Adams, Cumberland,

Dauphin, Franklin, Fulton, Lancaster, Lebanon, Perry, and York Counties.

Sixth Councilor District: Blair, Center, Clearfield, Huntingdon, Juniata, and Mifflin Counties.

Seventh Councilor District: Cameron, Clinton, Elk, Potter, Tioga, Lycoming, and Union Counties.

Eighth Councilor District: Crawford, Erie, Forest, Mercer, McKean, and Warren Counties.

Ninth Councilor District: Armstrong, Butler, Clarion, Indiana, Jefferson, and Venango Counties.

Tenth Councilor District: Allegheny, Beaver, Lawrence, and Westmoreland Counties.

Eleventh Councilor District: Bedford, Cambria, Fayette, Greene, Somerset, and Washington Counties.

SECTION 2 shall be amended to read as follows: "Each councilor district shall have a separate board of censors. The board shall be formed by the House of Delegates of this Society electing one censor from each component county medical society in the councilor district. Each component county medical society is requested to present to the House of Delegates for its consideration the name of a suitable member for district censor."

SECTION 3 shall be amended to read as follows: "The censors of each district shall consider every case of appeal from the decision of a component county medical society by a member who has been censored, suspended, or expelled, provided that the appeal is made within three months after the censure, suspension, or expulsion. They shall report in writing their decision thereon to the county medical society, and also to the councilors of this Society. They shall consider and dispose of all questions affecting the principles of medical ethics that may be referred to them, either by a component county medical society or by this Society. The decision of the censors in every case must be signed by a majority of the board. In case a district contains an even number of censors, and a tie vote results, the councilor for that district shall cast the deciding vote. Any appeal or judicial question arising in a district composed of less than three county societies shall be referred directly to the judicial council of this Society."

SECTION 4 shall read as follows: "Each councilor district shall hold a district meeting each year for the purpose of increasing acquaintance, good fellowship, and organization among the physicians of the district. Only members of a component medical society in that district shall be eligible to membership or office at such meeting, but all physicians residing in the district who are eligible to membership in a component county medical society shall be invited to the meetings."

CHAPTER V

SECTION 7.—The first sentence of the last paragraph shall be amended to read as follows: "Regular meetings of the Board shall be held immediately after the annual session of this Society, and on the first Tuesday in February and the second Tuesday in May of each year." Adoption of this amendment will provide for one less regular interim meeting of the Board of Trustees than at present.

CHAPTER VI

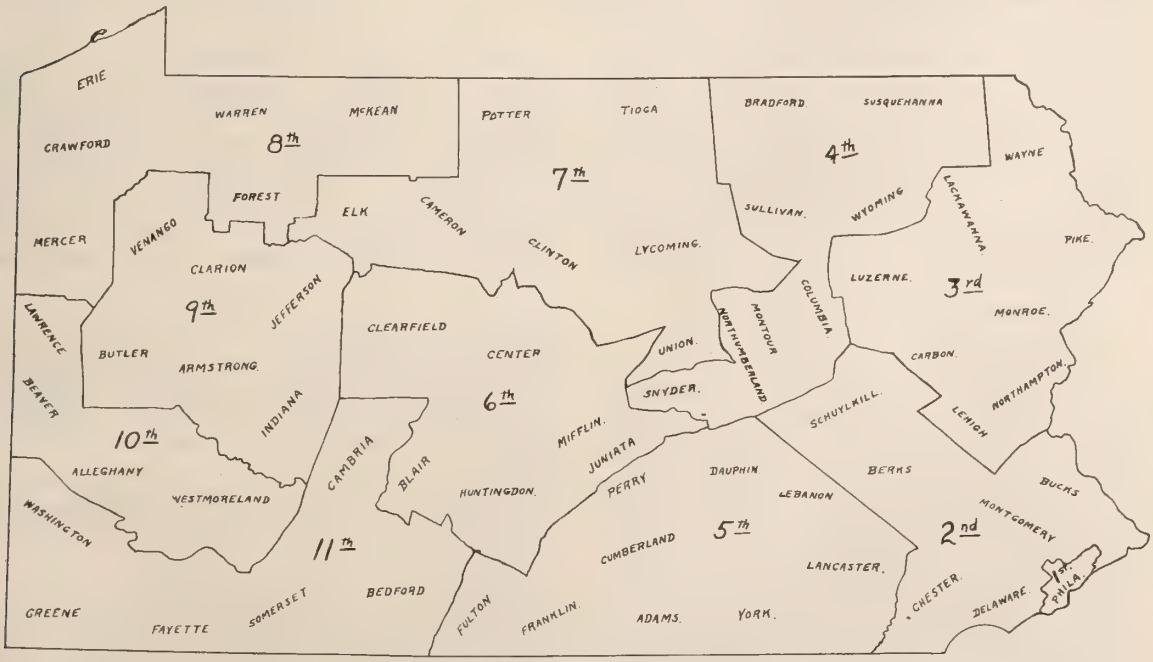
SECTION 8.—After the word "Secretary" insert the words "Editor of the JOURNAL." Adoption of this amendment will include the Editor of the JOURNAL as a member of the Press Committee.

CHAPTER VIII

Omit SECTION 2, renumbering the following sections in the chapter accordingly.

SECTION 3 shall be amended to read as follows: "Remembering that the component county medical society is the only portal to this Society and the American Medical Association, in considering the qualifications of applicants for membership, using due diligence so that only reputable, registered physicians, citizens of the United States, may be admitted to membership, each component county medical society shall make formal inquiry regarding such applicants of the Biographic Department of the American Medical Association." Adoption of this amendment will make a little more specific the investigation of qualifications of applicants for membership.

SECTION 4.—In the last line, between the words "the" and "district" insert the word "councilor." This change



COUNCILOR DISTRICTS, IF PROPOSED AMENDMENTS ARE ADOPTED.

is necessitated by adoption of the amendment to Chapter 3.

SECTION 7.—In the last line, after the word "district" add the words, "but no physician shall at the same time hold membership in more than one component county medical society."

SECTION 11 shall be amended to read as follows: "The secretary of each component county medical society shall remit to the Secretary of this Society, promptly upon receipt, the amount of the annual assessment of the members of his society, together with a copy of the receipt given to the members of his society. He shall promptly notify the Secretary of this Society of any change of address of the members of his society, and of losses in membership, giving the cause, such as death (with date), resignation, transfer, removal (with present address), or expulsion. He shall upon request furnish the Secretary of this Society with a list of the officers and members of his county medical society, and shall report new members as soon as they are qualified as members of his society, remitting at the same time the amount of the member's annual assessment."

THE 1926 SCIENTIFIC PROGRAM

The writer and the Chairman of the Committee on Scientific Work are probably the only members who have, at the present writing, been privileged to review the complete scientific program for the Philadelphia Session to be held at the Bellevue-Stratford Hotel, October 11th-14th. The programs of the various sections, including abstracts, have been assembled, and will be published in the August number of the JOURNAL. We feel confident that those who read the program when published will agree with us that never before have we had in practical postgraduate subjects the equal of this year's program. The outstanding success of last year's program, namely, the periods devoted to five-minute case reports in each section, will be repeated and augmented this year by a three-hour period of hospital clinical demonstrations in each section. The opportunity is rarely extended to the general practitioner to attend in three consecutive days specially highly organized clinical demonstrations, lasting three hours each, in general medicine, general surgery, and pediatrics.

MEMBERSHIP LIST FOR 1926

The 1926 Membership List as of July 1st, containing the names and addresses of the members of our sixty-three component county medical societies, in good standing at that time, has been printed and distributed among the proper officers of the various societies. A copy of the list will be forwarded to any member upon request made to the Secretary's office, Jenkins Arcade Building, Pittsburgh, or the JOURNAL office, 230 State Street, Harrisburg. The list includes also the officers and committees of all component societies.

COUNCILOR DISTRICT MEETINGS

The 1926 meeting of the Fifth Councilor District was held at the Huntingdon Country Club, Huntingdon, June 16th. The Scientific Program was given before dinner, and the dinner was followed by appropriate remarks from various officers of the State Society. Viewed from any angle—scientific, social, or organizational—the meeting was a complete success and well worth the effort expended by those who planned it, as well as those who participated in it. There were 136 physicians in attendance, representing nineteen Pennsylvania counties.

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since May 16th. Figures in the first column indicate county society numbers; second column, State Society numbers.

May	19	Washington	129	7363	$5.00
	20	Delaware	100	7364	5.00
		Somerset	46	7365	5.00
		Bedford	15	7366	5.00
		Allegheny	1250-1251	7367-7368	10.00
	27	Dauphin	163-164	7369-7370	10.00
June	2	Cambria	147	7371	5.00
		Washington	130	7372	5.00
	3	Potter	14	7373	5.00
	4	Lancaster	133-134	7374-7375	10.00
	9	Lawrence	66	7376	5.00
		Luzerne	271-273	7377-7379	15.00
	10	Somerset	47	7380	5.00
		Allegheny	1253-1261	7381-7389	45.00
	12	Franklin	52	7390	5.00
		Delaware	101-103	7391-7393	15.00
	14	Washington	131	7394	5.00
		Cambria	148	7395	5.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to June 15:

ALLEGHENY: *New Members*—John Priestes, 1549 Lowrie St.; George J. Thomas, 4068 Penn Ave.; R. C. Kirkwood, 435 Sixth Ave.; Pauline Marks, 568 N. Homewood Ave.; Samuel J. Rosen, 1854 Center Ave., Pittsburgh. Carl V. Guffey, 207 Fifth Ave., McKeesport. *Removals*—Jesse R. Griffith from Monessen to 1201 Monterey St., N. S., Pittsburgh; Hugh R. Gilmore from Sewickley to Emlenton (Venango Co.); Ruth I. Morrison-Hansen from Pittsburgh to 1199 W. Clifton Blvd., Lakewood, Ohio.

ARMSTRONG: *Removals*—George J. Heid from Nu Mine to Wycombe (Bucks Co.); Albert E. Bower from Ford City to Camp Hill (Cumberland Co.)

CAMBRIA: *New Member*—Thomas J. Cush, 1020 Franklin St., Johnstown. *Removals*—Joseph Appleyard from Barnesboro to 302 N. Lime St., Lancaster; George W. Farquhar from Johnstown to Belleville (Mifflin Co.)

CHESTER: *New Members*—Richard C. Cassellberry, 700 Madison St., Chester; Paul C. Crowther, 1121 Edgmont Ave., Chester; Elizabeth L. Clark, Chester Hospital, Chester.

CUMBERLAND: *Death*—Ambrose Peffer, Newville, May 23d (Jefferson Med. Coll. '87), aged 63.

DAUPHIN: *New Members*—Charles M. Denison, Harrisburg State Hospital; Chennon Carter, 59 N. 13th St., Harrisburg. *Removal*—Lester W. Frasier from Camp Hill to 1423 Belleview Ave., Camden, N. J.

FAYETTE: *Removal*—Daken W. Cunningham from Fairchance to 951 Park Ave., Meadville (Craw. Co.)

FRANKLIN: *Reinstated Member*—William E. Seibert, Greencastle.

LANCASTER: *New Members*—Elmer T. Prizer, 37 W. Orange St., Gardner A. Sayres, 18 S. Duke St., Lancaster.

LAWRENCE: *New Member*—George W. Garnette, New Castle.

LEBANON: *Removal*—Joseph W. Crowley from Haddonfield, N. J., to 4005 Westfield Ave., Camden, N. J.

LUZERNE: *New Member*—David A. Hart, Wapwallopen. *Removal*—Dennis E. Szabo from Hazleton to 633 State St., Perth Amboy, N. J. *Death*—Frank P. Summa, Nanticoke (Univ. of Penna. '13) May 14th, aged 39.

MONTOUR: *Removal*—John H. Focht from Elysburg to 3 S. Market St., Shamokin.

NORTHUMBERLAND: *Removal*—Russell J. Hangen from Pitman to 430 Market St., Sunbury.

PHILADELPHIA: *Deaths*—William Carroll (Jefferson Med. Coll. '63) recently, aged 91. Charles P. Pike (Univ. of Penna. '85) recently, aged 72. Henry Beates, Jr., May 25th (Univ. of Penna. '79), aged 69. Joseph Martin (Jefferson Med. Coll. '78), May 1st, aged 77. *Resignation*—Bowman C. Crowell, Philadelphia (removed to Chicago). *Removals*—Edward H. Goodman from Philadelphia to Dorset, Vt.; C. F. Maury Leidy, from Philadelphia to Towson, Md.

SCHUYLKILL: *Transfer*—John J. Dailey, Marble Bank Bldg., Hazleton, formerly of McAdoo to Luzerne County Society. *Removal*—James P. Roth, from Fountain Springs to 1944 Market St., Pottsville.

SNYDER: *Death*—Edward W. Toole, Selinsgrove (Coll. P. & S., Baltimore '81) March 13th, aged 75.

TIOGA: *Removal*—Paul A. Gempel from Cleveland, Ohio to Miami Ave., Leavenworth, Kansas. Grover A. Meikle from Elkland to Lawrenceville.

WASHINGTON: *New Member*—Ralph W. Koehler, Donora.

COMMITTEE ON PUBLICITY

S. A. BRUMM, *Chairman*
Philadelphia, Pa.

GOLF DURING THE STATE SOCIETY MEETING

For the members of the Medical Society of the State of Pennsylvania who indulge in golf, the following schedule has been arranged for the meeting of the Society in Philadelphia in October next. The courtesy of these clubs will be extended to them:

Aronimink Golf Club, Drexel Hill, Pa.

By motor: Walnut Street to 63d Street, turn right to Market Street, turn left on Market Street, turn left on West Chester Pike to 69th Street Station, over Garrett Road direct to Club—10 minutes ride from 69th Street.

Via trolley: Subway-elevated to 69th Street Station, Media trolley, and get off at Aronimink. Trolleys leave every fifteen minutes.

Bala Golf Club, Bala, Pa.

By motor: Parkway, Fairmount Park to Belmont Avenue, direct to Club; Rabbit Lane, on left off of Belmont Avenue.

P. R. R. to Bala Station.

Brookline Square Club, Brookline, Pa.

By motor: Walnut Street to 63d Street, turn to right to Market Street, turn left on Market Street, turn left on West Chester Pike to Llanerch, turn right, Darby Road to State Road, turn right to Club.

Via trolley: Subway-elevated to 69th Street, Ardmore trolley, get off at State Road, walk two blocks to Club. Trolleys leave every fifteen minutes.

Cedarbrook Country Club, Mount Airy, Pa.

By motor: Broad Street to Old York Road, turn left on Limekiln Pike to Club.

Via trolley: Route No. 49, north on 13th Street, Glenside line, Second and Tioga Streets, or No. 65, north from Fifth and Pine Streets, on York Road.

Country Club of Lansdowne, Lansdowne, Pa.

By motor: Baltimore Avenue to Lansdowne, turn left, Bailey's Road about one mile, turn left, about 1,000 feet to Club. 6 miles from City Hall.

P. R. R.: Broad Street Station to Lansdowne. Jitney to Club.

Llanerch Country Club, Llanerch, Pa.

By motor: Walnut Street to 63d Street, turn right to Market Street, turn left on Market Street, turn left, West Chester Pike direct to Manoa Road.

Via trolley: Subway-elevated to 69th Street Station, take West Chester trolley to Manoa Road (13 minutes). Trolleys leave every 15 minutes.

Marble Hall Links, Inc., Montgomery Co., Pa.

By motor: Fairmount Park, East Drive, to Ridge Avenue, turn to left to Barren Hill, turn right, with trolley to end of line, turn left to Germantown Pike for three-fourths mile, Club.

P. R. R. or Reading: Ticket to Conshohocken, taxi to Club.

Bus from City Hall direct to Club.

Merion Cricket Club, West Course, Merion, Pa.

By motor: Lincoln Highway, west to Merion Station.

Via train: P. R. R. to Merion Station. Grounds not available on October 12th.

Overbrook Golf Club, Overbrook, Pa.

By motor: Parkway to Fairmount Park, River Drive to Girard Avenue bridge, West Park to Belmont Avenue, to City Line, to Overbrook.

P. R. R. to Overbrook Station; Club is three blocks.

Via trolley: Subway-elevated to 63d Street Station, transfer to car No. 41.

Bus line between 63d and Market Streets to Overbrook.

St. David's Golf Club, St. Davids, Pa.

By motor: Lincoln Highway to Radnor, Pa.

P. R. R. to St. Davids.

The Springhaven Club, Wallingford, Pa.

By motor: Baltimore Avenue direct to Lansdowne.

P. R. R. to Wallingford Station.

Tredyffrin Country Club, Paoli, Pa.

By motor: Lancaster Pike to Leopard Road, one-fourth mile east of Paoli, 20 miles from City Hall.

P. R. R. to Paoli Station.

COMMITTEE ON SCIENTIFIC WORK

THOMAS G. SIMONTON, *Chairman*
Pittsburgh, Pa.

PROGRAM OF THE SECTION ON PEDIATRICS

Here, read this! The Pediatric Section is going to put on a show in Philadelphia next October that will make the Sesqui-Centennial look small in comparison. Again, don't wait until the last day to come around because you will miss one of the best parts of this show. On Tuesday afternoon from 2 to 5:30 we are going to have a clinic at the Children's Hospital which will be conducted by men of wide reputation, and will cover several very important pediatric subjects; viz., Demonstration and Discussion of Methods of Infant Feeding; Anemias of Childhood; Intestinal Parasites; presentation of a series of cases showing rare and unusual conditions; and further, it will be shown that it is more important to follow through with your cases than it is in golf, as a series of cases will be presented showing a comparison of the Clinical Diagnosis of Pneumonia in Infants with the Results of X-ray Examination and with the Findings at Autopsy. Lots of pictures!

Now, don't hurry away, because on Wednesday afternoon from 2 to 5 we are going to present the latest dope on Scarlet Fever—Etiology, Diagnosis, and Treatment. This is to be followed by an hour's consideration of the subject of Summer Diarrhea in Infants, and we might add that the high mortality from this disease deserves considerable consideration. Come around and give us the benefit of your experience. You will be given the opportunity! Immediately following, an hour will be spent in the discussion of Focal Infections in Children, by a very capable man.

Remember, we have three days of meetings, and you will be sorry if you don't hear what we have in store for you on Thursday morning at 9 o'clock. To begin with, we have a symposium on the Effects of Birth Injuries on the Development of the Nervous System, in which a large series of cases will be reported and the treatment discussed. The following hour will be devoted to a symposum on Encephalitis and its Effect on the Behavior of Children. This is a very timely subject, and will be presented by men who know their stuff. We all like to hear short, snappy case reports, and in the next hour you will hear eight of them, presented by men who know interesting cases when they see them. The last hour will be spent in listening to an address on the Pulmonary Lesions of Acute Carditis in Childhood, by one of the most distinguished pediatricians of this country.

The program of the Pediatric Section has been constructed with the idea constantly in mind of presenting to the medical profession of Pennsylvania three half-days of intensive postgraduate work. You can't afford to miss it!

SECOND TRISTATE CONFERENCE

The second meeting of officials from the New York, Pennsylvania, and New Jersey state medical societies was held at the New York Academy of Medicine on the afternoon of Friday, February 26, 1926, Dr. N. B. Van Etten presiding, and Dr. Alec Thomson acting as secretary.

In opening the meeting, President Van Etten referred to the first conference held in Atlantic City, November 7, 1925, and to the good results that promised to come from these gatherings. It has been found that these states have a good many common interests to discuss and a great similarity in the problems with which each must deal, so that uniformity of procedure is a thing very much to be desired. Among these problems, he mentioned the desirability of uniform laws governing the licensing of physicians, a subject especially important to those practicing on the border lines of these states; the classification of nurses, and regulation of their relationship to the medical profession; the institution of similar workmen's compensation laws; graduate extension medical work within the profession, to aid the practitioner who is unable to keep in close touch with the larger medical institutions; and the promotion of health education for the benefit of the public.

Dr. Gordon, upon request of the president, explained the plan recently inaugurated in New York for the promotion of postgraduate medical study. Through coöperation of his committee from the State Medical Society with the State Board of Health and State Board of Education, it has been found possible to place at the command of any county medical society, and without cost to the latter, instructors who are willing to visit that county one day a week for a period of six successive weeks and conduct a definite course of study. The teacher presents a short lecture, and this is followed by questions from the audience and by a general discussion, much after the manner of clinical class teaching in the last year of medical school. The plan has been tried successfully in the teaching of obstetrics and pediatrics, but it can be employed for any other branch or for any specifically limited medical or surgical topic, a varying number of lecture days being required according to the length or importance of the subject chosen. The expense of such work, consisting of a small honorarium to the teacher and his traveling expenses, is borne by the State Society and Board of Health which have united in procuring a special fund for this purpose. The attending class from the county society is not charged for the instruction. The county society must take the initiative, however, in asking for any of these courses, and must take care of all local arrangements as to time and place of meeting, and distributing information to members of the society and the class.

This plan is susceptible of variation according to the needs of any particular community. Where there is a medical school, more elaborate courses, with clinical demonstrations and exhibition of patients, may be pro-

vided. In other districts, where a definite course is not wanted, it is possible to arrange for single lectures on such topics as cardiac disease or tuberculosis, with blackboard or lantern demonstrations. Instead of the medical school, a county or other hospital may be used as the teaching center. As the medical colleges usually have their own postgraduate courses, they have not given much support to this plan, but lecturers can readily be obtained through the State Health Department or independently from among prominent members of the profession.

Dr. A. C. Morgan explained the plan employed by the Pennsylvania State Society through coöperation with the University of Pennsylvania Graduate School of Medicine.

Dr. Thomson called attention to the pronounced success of the weekly courses carried on by the Kings County Medical Society, where instructive lectures and demonstrations are conducted every Friday afternoon for one hour at the Brooklyn home of the organization. These courses have been attended by a very large percentage of the members, and have aroused immense enthusiasm.

Drs. Donohoe and Morrison described the efforts made in New Jersey, which state has no medical colleges to serve as graduate teaching centers. He referred especially to the adoption by the State Society of the plan devised by the University of Pennsylvania, the University having offered to extend its work over the boundary line, to accept New Jersey physicians into courses given at the medical school, and to carry the advertised courses to the various counties in New Jersey on the same basis as they are taken to the counties of Pennsylvania. The plan was accepted by the State Society at its last annual meeting, but in the short time that has elapsed since that meeting there has been as yet no response from the counties.

Dr. Reik expressed interest in the plan described by Dr. Gordon, and asked for further information as to the procurement of funds for carrying on this work. He thought the difficulty in the way of extending the Pennsylvania plan lay in the cost imposed upon the small county societies. These organizations are not able, or do not consider themselves able to defray such expenses. If courses of instruction can be offered to the county men at points near their homes and without any material cost, such a plan will be much more popular and much more likely to succeed than will any plan that calls for an assessment or contribution. It looks as though Dr. Gordon's plan might be profitably substituted in New Jersey for the plan previously considered, and if that should prove to be true, the New Jersey men may well feel that in this one point of information gained they have been well repaid for attending this conference.

Dr. Wightman emphasized the importance of having the county society become the nucleus of professional educational movements. An active society president and a competent secretary are necessary to success, and he thought it might be well to bring the county secretaries together to talk over the details of this problem, because there are a lot of secretaries who are not enthusiastic workers until stimulated to action. Where there is a live secretary, it is probable that lecture courses are being arranged.

Dr. Van Etten said that his observation as president of the New York State Society had taught him that the county society is just as good as its secretary, and not a bit better. It is essential to use the machinery we possess, and that means to secure good society secretaries, and get them actively coöperating in this work.

Dr. Lawrence explained that the statewide antidiphtheria campaign in New York had grown out of the satisfactory use of toxin-antitoxin in some of the city health departments, and because of the rather remarkable experiences reported as to control of the disease in certain localities. Auburn, with a population of 37,000, had recorded no death from diphtheria in a period of 2 years, and the last death reported prior to that was the result of neglect. During the past year an attempt has been made to study the situation throughout the state—the State Medical Society coöperating with the State Department of Health, the Charities Aid Association, and the Metropolitan Life Insurance Company—and a working program has been evolved. This program comprises both publicity and educational work, and will be confined at first to the larger cities.

It is intended to start by immunizing children under 10 years of age in the schools, by securing the aid of the family physicians, the school physicians, and the public clinics. As that program is advanced, the work will be directed to the preschool child, especially to children between 6 months of age and the time for admission to school, the idea being eventually to induce all parents to have their children immunized during the first year of life. This campaign was started by the Committee of Health, which published articles in the medical and health journals. After explaining the plan to physicians, it is laid before the public-health and school nurses, and is then carried to the laity. The Metropolitan Life Insurance Company has prepared pamphlets for public distribution, and a one-reel film showing the effect of diphtheria on the health of the country from the period of the Civil War to the present time. The president of the State Society is sending letters to the secretaries of all the county societies asking coöperation, and the State Department of Education is doing all it can to further this work.

Dr. Gordon spoke of the necessity for securing the active coöperation of all practicing physicians in developing a program of this sort. It is necessary to have a full-time officer connected with the state medical society to visit all the county societies, outline the need for stamping out diphtheria, explain the methods by which this can be done, and discuss the program thoroughly with them, considering particularly local problems, in order to get the campaign definitely sponsored by the medical profession. The public can be called upon then to accept the opportunity for immunization at a given time, when the profession is prepared to act practically as a unit in the administration of toxin-antitoxin to every one who will apply for it. It should be given by the physicians, and the people should pay for it whenever they can afford to do so. But, in order to reach every susceptible child, the authorities must be prepared to offer free toxin-antitoxin to every child, on definite days and in a definite manner, the administration to be by physicians selected by the county society, and who shall be compensated for their work.

Dr. Thomson described the introduction of this work into Erie County, N. Y., where the county society thoroughly discussed every aspect of this problem before starting the campaign. The city and state health officers, being paid for their services, are servants of the community, and should aid the members of the medical profession in carrying out such a program. The State Medical Society will not be able to cover the entire state at one survey, but will have to secure the coöperation of each district separately, and may

have to proceed slowly in order to accomplish satisfactory results.

Dr. Shoemaker expressed the opinion that the physician should always be approached first in consideration of these health problems; that too often this has not been done. Lay organizations have sometimes started to carry on health work and then attempted to supersede the physicians. In Pennsylvania, the State Health Department and State Educational Department have been considering the use of toxin-antitoxin in the schools. In so far as possible, every child has been immunized by the school physicians; in some instances, with the assistance of the Visiting Nurses Association. Toxin-antitoxin has been freely distributed by the Department of Health to all who needed it. There has been some indifference on the part of physicians because of the overactivity of some lay organizations that spread propaganda which the physician could not approve. Preventive medicine should be under the control of the medical profession if we are to secure the best results.

Dr. Donohoe discussed the lack of public interest in these preventive measures, and the necessity for public educational work to make the people appreciate what the state and the profession are doing for them.

Dr. Morrison told of the activities of the New Jersey Board of Health in relation to this question, and stated that the Board is considering the advisability of asking the Legislature to enact a law for compulsory immunization by toxin-antitoxin. He thought it doubtful, however, whether such a law could be passed until the public is better informed as to the benefits to be derived from it.

Dr. Reik made a brief report of the efforts at public education in medical matters, through the broadcasting of medical talks by radio and the simultaneous presentation of mimeographed copies of these speeches to the state press for coincident publication. It is hoped to extend these talks to include preventive medicine.

Dr. Dougherty remarked upon the importance of having the state medical society and the state board of health work together in development of these campaigns.

Dr. Thomson suggested that Dr. Gordon's plan for postgraduate instruction might be extended to cover the field of preventive medicine. The work can be covered more rapidly by the medical profession than by unofficial agencies working independently or working as leaders of the medical profession. Through an official study program we might secure coöperation more quickly.

Drs. Wightman and Overton spoke of the support the state medical journals could give to this work; through publishing details of the campaign, keeping every member of the profession informed, explaining the possibilities of securing toxin-antitoxin for charity use, and describing the most effective methods for its administration.

Dr. Wightman opened the discussion on periodic health examinations, and explained what New York is doing to keep this branch within the medical profession, and prevent its becoming a commercial proposition. It must be fostered by the county societies, and they probably can best be interested in the project by demonstrations of proper examinations and the making of proper records.

Dr. Reik stated that the New Jersey State Society, at its last annual meeting, had adopted the history and record blanks previously prepared by the New York County Medical Society, and that he had been presenting the subject to county societies and lay organizations all over the state. He spoke of the desirability of securing a suitable moving-picture film to demonstrate the complete physical examination, and suggested that the three states combine to meet the expense of having such a film made.

Drs. Thomson and Wightman then referred to some work being done under the auspices of the New York Tuberculosis Association, which is engaged in making such a film, and stated that it is possible this film will be ready for inspection at an early date. It will be a reel of 1,000 feet length, and it is possible that each of the state societies may secure a copy for use in their respective districts.

Dr. Hammond thought it important to continue keeping this matter before the profession by articles and notes in the state-society journals. This was agreed upon at the last conference, and we are all trying to push the matter. Each issue of the journal should have something to say upon this topic.

Dr. Morgan called attention to the accomplishment of the Pennsylvania Society in educating its members with regard to periodic health examinations. At the annual meeting in 1924, a list of 28 physicians was selected, representing all the teaching institutions in the state. This was placed under the direction of one man, who arranged to make examinations of as many as possible of the physicians themselves. These examinations not only served to fix the importance of the project in their minds, but served as a means of instruction for the conduct of such examinations. The Philadelphia County Society has since set apart one room in its building for conducting physical examinations of its members, and this growing group of trained examiners will expand the work by examining visiting physicians during the period of the Sesqui-Centennial. The State Society is sending its examiners to the various county medical societies, because it has been found valuable, not only for physicians to be better trained in the technic of examination, but to become responsible for teaching their patients the need thereof.

Dr. Morrison opened the discussion of "Group Insurance and Legal Defense" with an explanation of the form of group insurance now being offered to the New Jersey State Medical Society. He explained the gradual evolution of this group policy up to the point where it now appears to be the ideal form of insurance against malpractice suits.

Drs. Dougherty, Van Etten, and Rose discussed this plan, and all agreed that the policy described by Dr. Morrison was the best yet devised and put into effect.

Dr. Shoemaker explained that Pennsylvania had not accepted the group plan, but had preferred to adhere to the scheme of a medical defense fund, protecting the physician with adequate counsel and the support of his confreres, but not assuming any financial obligation as to payment of awarded damages.

Dr. Ross presented a careful analysis of the situation in each of these three states, and at the conclusion of the discussion, Dr. Dougherty offered a resolution to the effect that the conference endorses the general principle of having state medical societies afford defense to members against whom malpractice suits may be brought. This resolution was unanimously adopted. The Pennsylvania delegates were unwilling specifically to endorse the group-insurance feature of such protection as yet, preferring to wait for further demonstration of its value.

The subject of workmen's compensation was brought up for discussion, but Dr. Reik suggested that, as the hour was late and the subject one of too much import-

ance to be dealt with in a few minutes, it might be well to carry this topic over until the next conference, and moved that another conference be held in the near future.

Dr. Morgan seconded the motion, after presenting an amendment extending an invitation to hold the next conference in Pennsylvania. The amended motion was adopted, and the invitation of Pennsylvania accepted.

The conference then adjourned to meet in Philadelphia, June 21, 1926.

County Society Reports

ALLEGHENY—MAY-JUNE

The monthly meeting was held on May 18, 1926.

This year a prize of $25 was offered for the best case report submitted by the interns from the various hospitals in the county. The prize case report abstracted herein was presented by John W. Shirer, M.D., of Mercy Hospital, Pittsburgh, Pa.

Prize Case Report: Carcinoma of Stomach With Unusual Metastases.—W. H., aged 32 years, an adult negro male, was admitted to the hospital February 2, 1926, complaining of increased saliva, vomiting, and pain in the whole abdomen. The duration of his illness was four weeks prior to admission. The history obtained was that of having imbibed freely of alcoholic stimulants for the past four weeks, and vomiting which began suddenly at that time but was not associated with any pain. This was almost constant, and occurred with ingestion of any food or liquid. The salivation had begun about the same time, and was a most distressing factor. The pain in the abdomen was diffuse and cramplike in character.

The scalp showed numerous cutaneous and subcutaneous nodules varying in size from a small pea to a walnut. These tumor masses were also present over the nuchal region, and the posterior and anterior thorax. They were firm, painless, noninflammatory nodules, with no ulceration of the skin surface. There were no nodules below the umbilicus. The lungs and heart were normal. The abdomen was moderately distended and tender all over, more especially over the right upper quadrant. Hyperactive peristalsis was present. No definite masses could be palpated. The anterior and posterior cervicals and epitrochlear lymph nodes were enlarged.

Routine laboratory findings showed a normal blood cytology. The blood Wassermann was negative with both antigens. The urine was negative. The blood pressure was normal—120/80. An attempt to determine gastric function was unsuccessful.

The impression of the case at this time was: (1) General carcinomatosis, with partial gastric obstruction. (2) Acute alcoholic gastritis, as a complication.

An x-ray examination of the gastro-intestinal tract showed a fifteen-hour retention. No duodenal cap could be demonstrated, and there was a marked irregularity in the filling, especially below the equator of the stomach. A diagnosis was made of extensive gastric neoplasm.

One of the subcutaneous nodules was removed, and the pathological report returned was sarcoid of the skin.

To exclude syphilis of the stomach and, if present, the feeling that antiluetic treatment might improve the gastric condition, the patient was given mercury and iodin along with intravenous injections of salvarsan. The symptoms, strangely enough, improved following the administration of these drugs. After this treatment the gastro-intestinal series was repeated. The findings of the second series of pictures were identical with those of the first.

Another skin nodule was removed at biopsy, and it presented a structure similar to the one previously examined. However, at this time carcinoma was considered.

The progress of the patient was one of persistent vomiting, great emaciation, and gradual loss of strength until his death, which occurred April 13, 1926.

At necropsy the following anatomical diagnoses were made: (1) adenocarcinoma of stomach; (2) secondary adenocarcinoma of skin, peritoneum, retroperitoneal lymph nodes, transverse colon, and gall bladder; (3) edema and congestion of lungs; (4) acute fibrinous pleurisy; (5) chronic pyelitis.

Summary: This case was one of an extensive gastric carcinoma in a young male negro. The unusual metastases in the skin and subcutaneous tissue raised a number of interesting points in its diagnosis, but at necropsy they proved to be secondary carcinoma. Carcinoma is very unusual in a negro, and skin metastases such as these are exceedingly rare.

Radium as a Therapeutic Agent in the Treatment of Certain Skin Diseases: J. F. McCollough, M.D.—Radium has been subjected to innumerable tests with varying reports as to its efficiency. Indiscriminate use of radium is to be discouraged, and its field of usefulness is being gradually limited.

CONGENITAL LESIONS: Port-wine marks can be only partially improved. In pigmented nevi, radium has no selective action, but in nevus vasculosus (strawberry mark), the results are striking when the beta ray is used. In cavernous lesions, the end results are not so good as in the vascular type. Warts respond readily, and in superficial hypertrophies the results are short of marvelous.

MALIGNANT GROWTHS: The x-ray and electrocoagulation in conjunction with radium should not be lost sight of in necessary cases.

BASAL-CELL TYPE: These lesions must be differentiated from lupus vulgaris and syphilis. They do not usually metastasize, but the prognosis is bad where bone and cartilage are involved. This type of malignancy usually responds best to radium therapy.

SQUAMOUS-CELL TYPE: This is the most serious variety. Two kinds are distinguished: One is characterized by an infiltrating mass, with early metastasis, and poor prognosis. The other is an exuberant growth of the cauliflower or mushroom type, which develops sluggishly and metastasizes later. Early biopsy is advised, with radical treatment. Where microscopic examination shows the basal-cell type, radiation of the glands is seldom indicated.

Colostomy—Its Indications, Technic, and Care: C. C. Mechling, M.D.—Temporary colostomy is indicated in hemorrhage, increasing ulceration of the colon, and fistula of the colon, and is always followed by a secondary closure. Permanent colostomy is indicated in the presence of rectal tumor or dense stricture necessitating the resection of the rectum.

The technic varies according to the operation. The apparatus for collecting fecal material is not recommended. Attention to diet, avoiding laxative foods, with perhaps an occasional small dose of opium, usually gives easy control except in the aged. A small enema after breakfast and a little time given to the toilet usually suffice to make the bowel habit secure for the day. A simple broad, snugly fitting canvas belt should be worn to make pressure on the stoma.

Report of Aneurysm Cases of Long Duration: John W. Boyce, M.D.—Four cases are recorded of aneurysms in apparently healthy persons. The fluoroscopic examination is necessary to detect some aneurysms, and should be corroborative in suspected cases. The Wassermann test is usually negative in this type of case, and no definite value can be placed upon it. The history of syphilis is usually elicited by the physician. The author contends that an authoritative x-ray diagnosis of an aortic aneurysm does not justify us in setting a definite duration for the future life.

At the meeting on June 15th, the following program was rendered:

Lester Hollander, M.D.: Organic Luetin; An Aid in the Diagnosis of Syphilis.—Since von Pirquet demonstrated that the diagnosis of tuberculosis may be assisted by the reaction to intracutaneous injections of tuberculin, several observers have tried a similar test for syphilis. Various workers have reported results, and the following facts have been brought out: The reaction is strongly marked if preceded by the administration of iodids, and it may be produced by the injection of agar. Positive reactions should be looked upon with suspicion, but negative luetin reactions may be of considerable value in excluding later syphilis.

The author used organic luetin—a watery extract of tissues containing Spirochæta pallida, prepared by the technic described by Bunson. Intracutaneous injections of 0.1 to 0.2 c.c. were used, giving a pea-sized to dime-sized anemic wheal at site of injection. The test is regarded as positive if 24 to 36 hours after injection, a longitudinal oval (5 by 3 to 10 by 5 cm. or larger) bright red patch which is sharply demarcated appears and shows an urticarial swelling.

The reactions are positive in gumma, syphilis of the skin, mucous membrane, periosteum (80 per cent), bone, and internal organs, and in congenital syphilis (85 per cent). They are negative in tabes dorsalis, paresis, and late manifestations of syphilis.

John R. Simpson, M.D.: The Chronically Discharging Ear.—The type of ear referred to in this paper is one from which there has been a discharge, intermittent or continuous, for a period of three or more months. The purpose of the paper is to direct attention to the dangers from the chronically suppurative ear and to the removal of danger.

The proportion of intracranial complications is not known. Brain abscess, sinus thrombosis, and meningitis are the most common complications. Insurance companies reject applicants with chronic middle-ear disease, or carry them at high premium rates, but the attitude of the physician depends upon his personal experience.

A careful history taking, inspection, and various neurological and functional tests are advised. If the condition is harmless, local treatment will suffice. If dangerous, after a fair trial of local treatment with no relief, a radical mastoidectomy is advised.

T. M. C. Mabon, M.D.: Myxedema.—Sir Felix Semon's collective investigations and Horsley's observations on monkeys definitely proved that the loss of thyroid function was responsible for the development of cretinism, myxedema, and cachexia strumapriva. A woman of 53, whose symptoms included choking sensations in the throat, aching of lower extremities, chilliness, loss of weight, weakness, dyspnea, deafness, speech defects, dry skin and hair, sluggish reflexes, and a basal metabolism of —37½, was given thyroid extract gr. 1/10 t.i.d. with marked improvement, and return of symptoms with a lapse in treatment.

Voight Mooney, M.D.: The Significance of Hamstring Spasm.—The hamstrings consist of the biceps femoris, semitendinosus, and semimembranosus muscles, being attached to the pelvic girdle and tibia. They help to maintain the body erect and prevent the trunk from falling forward, but also function as flexors to the knees. Examination for spasm is made in standing, sitting, and lying positions. The spasm is due to a reflex irritability of these posterior muscles, and indicates that the sensitive tissue no longer permits leverage action on the sacro-iliac joint. It must be differentiated from Kernig's sign, which is an inability to extend the knees fully while the patient is sitting upright.

I. L. Ohlman, M.D.: Nonboiling Method of Syringe Sterilization for Intravenous Work.—Equipment necessary: (A) a jar containing compound solution of cresol, (B) a jar containing 95-per-cent alcohol, (C) a wide-mouthed bottle containing commercial alcohol.

Step one: After office hours, syringes are washed in running water, and dropped into jar A after piston is removed. Step two: Next day the syringe is lifted with sterile forceps, and placed in jar B. Step three: If the syringe is not used, leave it in jar B indefinitely, or remove it and wash in jar C, and place on a sterile table to dry.

H. E. Thorpe, M.D.: Slit-Lamp Microscopy of the Living Eye.—The principle of the slit lamp is as follows: A beam of light passes through an ordinary transparent substance in which there are microscopic particles, causing them to reflect light and become visible. This is called Tyndal's phenomenon. This beam of light, accurately focused, creates an optical section similar to a microscopic section, which can be viewed with a binocular microscope under a magnification of 10 to 108 diameters. The depth of the lesions can be ascertained in the various layers of the cornea, anterior chamber, lens, and vitreous as easily as in a prepared anatomical section.

Its value to the clinician is that a complete examination from the cornea to the vitreous can be made in five minutes. It does not supplant other methods, but supplements them. By it a differential diagnosis is more readily made. It raises the diagnostic ability, and has a medicolegal value.

L. G. BEINHAUER, M.D., Reporter.

DAUPHIN—APRIL-MAY-JUNE

At the regular meeting held April 6, 1926, the program was in charge of Drs. C. R. Phillips and J. L. Lenker. Dr. Phillips reviewed the embryology of the heart, with its anatomy and its general disorders, and Dr. Lenker described the principles and application of the electrocardiogram to the diagnosis and treatment of heart disorders.

The question of newspaper advertising by members of the profession had been presented to the Board of Censors, who reported as follows:

"After carefully considering the question of professional advertising in the public press, your censors unanimously agree that in their opinion this practice is not only contrary to the long-established custom of the Dauphin County Medical Society, but also to the Code of Ethics of the American Medical Association as well.

"In support of our contention, we submit the following abstracts from Chapter 2, Article 1, Section 4, of the Code of Ethics of the American Medical Association:

" 'Solicitation of patients by physicians as individuals or groups, whether by circulars or advertisements, or

by personal communication, is unprofessional. It is unprofessional to disregard local customs and offend recognized ideals, or to employ any methods to gain the attention of the public for the purpose of obtaining patients.'"

The Society unanimously approved the findings of the Censors.

At the meeting of May 4th, President Shoemaker and Councilor Appel addressed the Society.

A letter from the District Councilor was read, and after discussion, it was decided to have the regular meetings of the Censorial District each year, as at present, and also have a meeting of the Councilor District, which includes the counties across the river to the Maryland line, each second year.

President Shoemaker gave an outline of the work accomplished by the State Society during the past year, telling of the new agreements between the State Boards of New Jersey and Pennsylvania; the conditions under which the National Board of Medical Examiners are having their certificates accepted by the State of Pennsylvania; the new State Registration Act; the maintenance of premedical-education standards for drugless healers; the meetings of the officers of the State Societies of New Jersey, New York, and Pennsylvania; and closed his remarks with the admonition to have less socialization, and more use of the Golden Rule.

Dr. Apple, of Lancaster, the District Councilor, told of new medical legislation, the need of the benevolence fund of the State Society, and the new proposal for applications to county societies which will take effect after the next State Society meeting.

The program of the evening was in charge of Dr. W. Minster Kunkel, who had his staff of school medical inspectors to talk on different parts of the subject "Thyroid Disease Among School Children." Dr. L. S. Witherow spoke on the "Anatomy and Physiology of the Thyroid"; Dr. Paul C. Walter presented the "Pathology of the Thyroid," and Dr. Miriam Polk discussed the "Treatment of Adolescent Goiter." Dr. Kunkel, in closing, gave a résumé of the work done in the Harrisburg schools with reference to goiter study and treatment. Some of his figures bear repetition.

School Year of 1925-26

Camp Curtin School

	No. of Exams	*Enlarged*	*Percentage*
Age 10 to 14 years			
Boys	729	18	2.47
Girls	790	65	8.00
Total	1,510	83	5.40

Edison School

Age 10 to 14 years			
Boys	781	6	0.76
Girls	780	52	6.60
Total	1,561	58	3.40

Central High School

Age 12 to 17 years			
Girls	474	109	23.0

William Penn School

Age 12 to 17 years			
Girls	395	45	11.4

School Year of 1924-25

First to Sixth Grades	1.00+

3

At the June meeting, the wives of members were entertained by the Society, and there was a large attendance.

Dr. C. H. Garwood, Superintendent of the Harrisburg Schools, was the speaker of the evening, and told of the changes in the scheme of education between the prewar and postwar periods. He described in detail the revised curriculum of the Harrisburg School District, as recently adopted by the Board of Education, and stated why these changes were made, and how the pupil would be prepared for his future life should he be unable to continue his work into college.

There will be no meetings during the summer months.

Josiah F. Reed, *M.D.*, Reporter.

LUZERNE—MAY-JUNE

The regular meeting was held May 19 in the Society's building, President Mayock in the chair. Dr. Daniel F. Daley, Pathologist to the Mercy Hospital, read a paper on "Various Kidney Diseases and their Association with High Blood Pressure."

Dr. Daley: Edema is independent of the output of water by the kidney. We have the edema of hunger without albuminuria, the edema of myxedema, the edema of the absolutely healthy kidney. The output of water depends upon the standard of water in the tissues. The metabolism of water is regulated by the tissues and nervous system. The blood pressure is dominated by the condition of the vessels of the bowels. Increased blood pressure in acute nephritis depends upon a spasm of the vessels of the body. Blood pressure returns to normal with subsidence of the acute nephritis. Long-lasting spasms in acute or chronic nephritis cause high blood pressure. With loss of elasticity of arteries, the heart must do more work. Convulsions in acute uremia can be relieved by lowering the blood pressure either by venesection or intravenous injection of papaverin. In nephrosis there is much dropsy, but the blood pressure is not increased. Administration of urea helps reduce the dropsy.

Dr. Long: When all is said and done, more and more dependence will be placed on the diet in treatment of hypertension. In certain nephritides, a salt-free diet or salt-poor diet is our mainstay. Reduction or elimination of proteins is what we have been using for years.

Dr. Musa: In Soviet Russia, in 1921, I saw many thousands of cases of hunger edema. They presented all the appearances of nephritis. In a few cases treated in hospitals, the urine showed absolutely nothing.

Dr. Daley: Nephritic edema is caused by a combination of kidneys, nervous system, and tissues. The individual with chronic nephritis has it because of an improper diet. With kidney involvement, there is poor elimination of salt which is constantly being stored up. This salt has hygroscopic qualities, and it has a place in the development of edema. The thyroid also has an effect. Pituitary extract affects the thyroid, and administration of it helps reduce edema. Tobacco increases the blood pressure. Here and abroad, it is thought that abuse of tobacco is a factor in increasing blood pressure. Those abroad think that salt imbibed has no effect. Allen does. If we eliminate salt entirely, an edema opposite to the edema of nephritis is produced.

The effect of insulin in the treatment of hypertension is only temporary. It is of absolutely no use in uremia, because it is a different condition. The uremia is due to creatinin and nonprotein-nitrogen retention, while diabetic coma is due to acetone and diacetic acid. In arteriosclerosis associated with diabetes mellitus, some

individuals will have chalk in the media and no sclerosis. They may have chalk without increase of pressure. There is no increase unless there is a change in the intima. Theophyllin is one of the best drugs in the edema and hypertension associated with diabetes.

President Mayock presided at the regular meeting of June 2 held in the Society's building. The following were elected delegates to the meeting of the State Medical Society in Philadelphia next fall: Drs. Mengel, W. J. Doyle, and S. M. Wolfe. The following alternates were elected: Drs. Shafer, Grover, Joseph Dougherty, A. C. Trapold, Jr., Prevost, and Freeman. Dr. J. E. Scheifly was elected district censor. Dr. David A. Hart of Wapwallopen was elected a member of the Society. Dr. John J. Dailey of Hazleton was accepted to membership on transfer from the Schuylkill County Society.

The essayist was Dr. Joseph J. Walsh of Philadelphia, his subject being "Galen, the Father of Experimental Physiology." He laid special emphasis on his discovery of the recurrent laryngeal nerve, and the determination of the seat of intelligence in the brain as opposed to the older view of its location in the chest. Dr. Walsh's talk was illustrated with lantern slides, and was delivered in a most scholarly fashion. He portrayed the geographical location of Galen's birthplace in Asia Minor, the city of Pergamum, where the physician was born in 130 A. D., the son of an architect and wealthy citizen. He showed a reconstruction of the Temple of Æsculapius at Epidaurus, where Galen commenced the study of medicine at 17, continuing for four years, thence going to Smyrna for two years, and on to Alexandria in Egypt for five years' study. These eleven years of preparation figured largely in influencing Galen's stand later in Rome, when he seized every opportunity to call attention to the shortcomings of that school of practitioners which limited their preparation for practice to six months' study.

Back in Pergamum at the age of 28, Galen soon became recognized as one of knowledge and ability, and was appointed physician to the gladiators. Dr. Walsh emphasized the fortuitous circumstance of the farm owned by Galen's father outside the city, probably used as a refuge from a shrewish wife, but serving Galen as the site and means of his early experiments in physiology on living swine. He early became interested in the study of respiration in animals, and while studying the influence of the phrenic and intercostal nerves, he discovered the recurrent laryngeal nerve. The knowledge gained and published by him of the functions of the spinal cord was not added to until the time of Sir Charles Bell, 1,800 years later.

At the age of 34, Galen went to Rome presumably for the benefit of the travel and sight seeing, but there he remained until his death at the age of 70. Here he demonstrated his experiments in physiology, continued and expanded his studies, did much of his writing, and became in time the physician to six emperors in succession.

It was when called in attendance on Marcus Aurelius, to relieve that emperor of seasickness persisting after a recent voyage, that Galen labeled the affection a minor complaint and predicted an early and uneventful recovery, upon which pronouncement Marcus Aurelius erected Galen's famous epithet, "The Prince of Physicians."

The annual outing meeting was held at the Wyoming Valley Country Club on June 16th. The afternoon was devoted to golf, tennis, and baseball, followed by dinner at 6:30.

The scientific session was held at 8 p. m., with President Mayock in the chair. Dr. P. Brooke Bland, of Philadelphia, delivered an address on "The Management of Pregnancy," including prenatal, intranatal, and postnatal care.

Dr. Bland called attention to the maternal mortality rate. For the sixteen years preceding 1923 there had been no reduction in Pennsylvania, the rate persisting at 6.1 per cent, although the infant mortality rate has been decreased. There is no field in which preventive medicine is more worth while than obstetrics. The management of pregnancy should commence as soon after conception as the condition is apparent, and should not end with the customary fourteen days of the puerperium, but should continue through the four months subsequent to parturition until involution is complete. The need of routine urinalyses and blood-pressure readings during the prenatal period was emphasized. Careful mensuration in primiparas is essential. After the thirty-sixth week, all examinations should be by rectum, as the rectal examination yields all the information obtainable by vaginal examination, and reduces the incidence of infection. Cesarean section or version are preferable to the use of the high forceps. If the head is in the midpelvis, even in transverse position, time should be allowed for the head to come down spontaneously rather than use the forceps. Too many cesarean sections have been done and are being done. The operation is in no sense a clean abdominal section.

Dr. Mengel agreed that too many cesarean sections are being done, and asked about versions.

Dr. Williams asked how the internal conjugate can be determined by rectal examination.

Dr. Myers urged the importance of observing and recording the mother's weight during pregnancy. Too rapid a gain in the later months presages the likelihood of intoxication.

Dr. Kocyan pointed out that the maternal mortality rate in Luzerne County is lower than the state-wide rate, and predicted a still further reduction, attributing much of the improvement to control and supervision of midwives.

Dr. Bland deprecated routine version (Potter version), though he had been surprised to learn recently that two men in a neighboring city had been doing it successfully. The internal conjugate is still being determined per vaginam in primiparas, but in multiparas it is assumed that the woman, once having borne a baby, can bear another, and the vaginal mensuration is not done.

Dr. Charles H. Miner, Secretary of Health of the Commonwealth, spoke on some of the activities of the State Health Department. The various state sanatoria for the tuberculous are filled, with a waiting list of 600. Heliotherapy is being practiced in all the sanatoria, especially in the case of underweight children as a preventive. The ultraviolet rays of the sun which are therapeutically active comprise only a small percentage of the spectrum. They are absorbed by any covering of the body, by clothes, by window glass. Patients are exposed naked, on open porches without glass, the amount of exposure being increased until the entire body is tanned. The sun's rays have been of marked benefit. Combined with this treatment is the usual dietetic and hygienic régime, with preliminary cleaning up of diseased tonsils, adenoids, and teeth. Dr. Miner announced the forthcoming meeting in Luzerne County on July 9th to establish a public-health council, and appealed to the society for support.

Dr. E. S. Everhart, of the State Department of Health, spoke on the organization of the public-health council.

LEWIS T. BUCKMAN, M.D., Reporter.

PHILADELPHIA

April 28, 1926

SYMPOSIUM ON STERILITY

Dr. Isador C. Rubin, New York City (by invitation): Sterility in the Female.—Sterility is not a disease entity, but is a problem requiring full diagnostic capabilities. A woman may be sterile only with one particular mate. A fair test of male potency lies in the study of the seminal fluid in the vagina post-coitu. If live sperm are found in the vagina or cervix from one to twenty-four hours after intercourse, it is fair evidence that the male is not at fault. However, it may not be enough to discover live sperm in the female genitals, for we do not know as yet exactly what it is in the sperm that makes for impregnation of the ovum. Sperm of two distinct types of motility and morphology can be demonstrated on the slide: (1) the short-tailed vibrating type, resembling immature sperm, and with only ordinary and purposeless motility, and (2) the searching, mature type, long-tailed, with large oval head, making purposeful excursions as if sniffing and rejecting leukocytes or bacteria or epithelium which it encounters. Unless this latter type is present, it is doubtful if the male has fecundating power.

When the question of male sterility has been settled, the factors must be considered which render the sperm paralytic or destroy it—secretions in the vagina, cervix, or higher up. Chronic vaginitis is lethal to spermatozoa, for the acidity is increased, and a highly acid vaginal secretion destroys them. Mucopus which exudes from or plugs the os is equally lethal, and an endocervicitis is a common cause of failure of the sperm to enter the uterine cavity and oviducts. Endometritis is very uncommon, for the uterine cavity is practically aseptic, and sperm may thrive there for a long time. A woman with regular menses may be considered to have a normal ovarian function. The bacterial flora of the vagina form a factor in abetting the prosperity of the spermatozoa, and because of pathogenic bacteria, the sperm may succumb.

The uterus is calculated to allow the sperm to traverse the cavity to the ostium, where fecundation takes place, and to allow a place of attachment. Anything interfering with this renders the woman relatively sterile; e.g., submucous myoma, endometritis preventing normal decidua or causing hemorrhage, or a blocked ostium. In studying the patency of tubes, it has been found that certain uteri are resistant, and uterotubal spasm has been demonstrated under the fluoroscope. Later, a relaxation takes place, and the fluid enters the tubes. Vaginal spasm is a familiar condition, but how far dyspareunia affects impregnation is hard to say. Impregnation may occur in intracrural coitus or coitus under narcosis, yet there seem to be cases in which pregnancy occurs only with complete orgasm and acceptance. Vaginismus has a rôle, but is amenable to treatment. The degree of responsibility of conical cervix and anteflexed uterus for sterility is probably overestimated, for millions of sperm may pass through a pin-point os, but if the malposition has caused an endocervicitis, this inflammatory condition makes a complete barrier. It may be, also, that a woman whose organs are so formed has a recessive development of the entire body economy. In Germany this has been stressed, and it has been shown that in 30 per cent of sterile marriages where the male can be excluded, the constitutional element plays the chief rôle.

The ovaries present a difficult problem, for they are not always palpable, nor can their action be determined by palpation. Symptoms pathognomonic of abnormal ovaries are amenorrhea or metrorrhagia without a fibroid condition of the uterus. Whether the amenorrhea is primary, or secondary to tuberculosis, anemia, hepatic disease, Bright's disease, focal infection, Basedow's disease, or other disease, must be determined. While it has long been thought that gonorrhea was a most potent factor in the causation of sterility, it is not responsible in more than 15 per cent of cases. Retroversions and retroflexions play a part by deviating the portal of entry from the axis of the vagina, or by the distortion creating abnormal vaginal and cervical secretions.

The most frequent causes of sterility in the female are lack of the proper ova, blockage of the ova, or failure of nidation and nutrition. There are certain amenorrheic cases associated with a certain degree of obesity in which until recently we have despaired of success. Five per cent of these become pregnant spontaneously years after marriage. Through the use of the x-ray, these women can be stimulated, and by restoring the normal menstruation, the chances for pregnancy are promoted. If the tubes are blocked at any portion, whether completely or incompletely, pregnancy either does not take place, or is apt to be extrauterine. The status of the tubes can be ascertained by use of the Rubin pneumoperitoneum gas test. It is a question as yet whether or not the endosalpinx furnishes a material favorable to pregnancy, for its endothelium is so complex as to suggest this possibility. It is hard to get data on the normal living tube, but since it is derived from the Müllerian duct, it at least has powers of nidation.

The problem of sterility is by no means solved, but progress has been made, and it is possible at least to determine the patency of the genital tract throughout.

Dr. Leon Herman: Sterility in the Male.—The proportion of males lacking in reproductive function is ten per cent, due not alone to relative infertility, but also to structural defects of the genitalia, bacteria, and influences of civilization. Various statistics have shown that 20 to 66 per cent of childless marriages are attributable to the male. Therefore, an investigation of sterility should be begun in the male, instead of subjecting the woman to needless operations, as has often been done. In taking up male sterility, we shall presuppose sexual potency and a normal mate. The discharge may be retained by a stricture, or because of regurgitation into the bladder, both of which conditions are amenable to treatment, or there may be a failure of the glands to secrete—a hopeless condition. The best examination of the seminal fluid is by the fresh condom specimen or the vaginal deposit after coitus, though the longevity of sperm in the female tract is variable. The presence of normal sperm eliminates the male in a question of sterility. The amount, viscosity, reaction, and appearance of the fluid must be studied, as well as the number, shape, size, and motility of the spermatozoa. The semen is alkaline, and neutralizes the acidity in the vaginal secretion. Vesicular fluid is not essential. In 1 c.c. of normal semen, there are 60,000 sperm, the majority normal, though many may be fragmented, and these exhibit a standard rate of motion in the microscopic field. When sperm are lacking, there is perma-

nent sterility, unless there is a stricture which can be overcome.

Oligospermia presents a doubtful condition in which the prognosis should be guarded, especially since the sperm may be active with some females and not with others. If the condom specimen is normal except for motility, a fresh specimen is needed for an accurate opinion, yet feeble sperm may become activated in the vagina. Examination should be made within six hours, to rule out a complete necrospermia. Abnormalities of the genital ducts must be noted, an excess of mucus being indicative of a pathologic process—a prostatitis or vesiculitis, which, by overproduction of mucus, interferes with fertility because of obstruction. The influence of infectious lesions on sperm is doubtful, except as they produce obstructions. A frequent cause of sterility in the male is gonorrhea, with double epididymitis, faults in spermatogenesis or liquefaction necrosis during passage through a diseased rete testis or epididymis. Trauma, x-ray, or certain diseases, as mumps and orchitis, may produce faulty spermatogenesis, and the prognosis here is bad. The vas deferentia may be destroyed, yet the testis be normal, and catheterization of the ejaculatory ducts must be tried, or aspiration from the upper pole of the epididymis.

After the most complete examination, doubt remains in borderline cases, and just as diet has been found to play so important a part in breeding carnivora in captivity, so diet here too may be a factor, and the case should be under expert medical care. In tuberculosis, carcinoma, inflammatory lesions of the prostate and seminal vesicles, cryptorchidism, or thyroid or pituitary insufficiency, treatment is useless, and organotherapy and testicular implants are of no benefit. In general, cases of male sterility, if possible, should have sex health restored by abstinence, hygiene, and diet. Faults in spermatogenesis are hopeless. Operation provides a cure in 25 per cent of cases of azoöspermia. Necrospermia may be helped by the correction of faulty physiologic processes. Testicular atrophy is hopeless, but the patient should be told that his sexual potency will not be destroyed.

In discussion, Dr. Wm. R. Nicholson cited the advance made during the past ten years. Sterility in the female may in the future in some cases be overcome by stimulating doses of x-ray. The importance of retrodisplacement must be borne in mind. The demonstration by the graphic method of an irritable uterus is valuable. He does not believe that amenorrhea necessarily means bad ovarian function, nor do occluded tubes cause sterility in many cases. It is a mistake for the incompetent to adopt the Rubin test as a diagnostic method. Endocrines may be mentioned only to be condemned.

Dr. Alfred Heineberg commended Dr. Rubin for putting the diagnosis of closed tubes on a sound basis. The question remains what to do after diagnosis. If the tubes are closed, the probability of failure after operation is 100 to 3. If the tubes are patent and the husband is normal sexually, the problem is more difficult still. The direction of the cervix may be the interfering factor. In occluded tubes complete bilateral salpingectomy is best.

Dr. Percy S. Pelouze said that supposed necrospermia may really be only a viscid seminal fluid. Gonorrhea is blamed for more sterility than it causes, for a gonorrheal epididymitis is easily prevented. High irrigations in the acute stage may spread the disease into the vas deferens. Bacteria in the genital tract may be a factor in sterility.

May 12, 1926

Symposium on Tuberculosis

Dr. S. Adolphus Knopf, New York (by invitation): Physical and Mental Rest in the Treatment of Pulmonary Tuberculosis.—Tuberculin as a specific is of no value, and may do harm. The question of greatest importance is "How can the patient be given mental and physical rest?"

First he must be impressed with the importance of the case. He should then be told of the reduction of mortality from tuberculosis during the past few years, and that it is not a hereditary disease. If he has had a hemorrhage, he should be assured that it was a godsend, a fortunate warning. If he has not had one, he should be cautioned as to its possibility.

His habits as to smoking and drugs must be inquired into, and during the physical examination he must be protected from exposure. The ideal climate for him is that where he can live longest outdoors with comfort—mountains or seashore, warm or cold, according to his mental attitude. If he goes to a sanatorium or hospital, he must not be allowed to get homesick. If he remains at home, the environment must be pleasant. Visitors should be allowed only if he is in the proper condition, and then only such persons as he wants, since the effect of jarring personalities is very bad.

The patient must be taught how to control his symptoms—a dry cough should be suppressed, a wet cough encouraged, since it eliminates expectoration. Directions as to diet should be explicit, and in writing. Extreme nervousness must be overcome by discovering the cause of the anxiety and providing a remedy. Hemorrhage requires absolute quiet, using morphin if necessary, and possibly artificial pneumothorax. Pain, actual or imaginary, must be treated, and restlessness may be abated after an interview with priest, minister, or lawyer. Artificial pneumothorax is good if the patient can be kept long under observation, but the patient who can get along without it is better off. External restriction with straps or plaster of Paris, or controlled diaphragmatic respiration is beneficial. Posture is helpful, and the patient should be taught to sleep on the affected side.

Dr. Willy Meyer, New York (by invitation): Hospitalization of Patients Requiring Operations for Tuberculosis of the Lungs.—There is no question that advanced pulmonary tuberculosis is a borderline disease. In 1910 the speaker had a case of far-advanced pulmonary tuberculosis on which he wanted to try the new method of thoracoplasty. It was almost impossible to secure the admission of such a patient to a general hospital. After much delay and many appeals, he was allowed to bring in this patient, and the man was sent home completely cured. Later, an isolating house was provided for this use, but private patients resented confinement to such a place, and its maintenance was too expensive for ward cases.

Although it had been proved that workers in sanatoria for tuberculosis never contract the disease unless they had had it previously, the opposition remained strong, and the law in New York State forbidding patients with pulmonary tuberculosis to be admitted to a general hospital remained in force until 1925, after all the states except Minnesota, Virginia, Illinois, District of Columbia, and the city of Portland, Oregon, had opened their hospitals to these sufferers. Now, in New York, these patients may be admitted to the ward and screened, and may be admitted to a private hospital. The other states must follow suit. These patients should not be

required to travel long distances, and in every state there should be from one to three surgeons trained for such work. The ether-oil colonic anesthesia is the method of choice, since it produces very slight hyperemia in the lung, and may be easily supplemented by chloroform or anesthol whiffs.

Dr. Howard Lilienthal, New York (by invitation): Surgery of Pulmonary Tuberculosis.—Thoracoplasty comprises the resection of eleven ribs, beginning at the top and working in two stages. The aim is to compress the chest and make it rigid. There is a mortality of about 15 per cent in these cases. Local anesthesia is almost always used, less than 20 c.c. of novocain being required for the resection of six ribs. The dressing is important, for the chest must not flop. Special elastic adhesive is now used.

For the operation of avulsion of the phrenic nerve, an incision 1½ inches long is made on the clavicle, and the nerve is found on the scalenus anticus muscle after the omohyoid is pulled up. It is the only structure on the scalenus anticus in the subclavian triangle, and reels out very easily. The wound is closed with skin clips, and a drain is left in at the outer angle for only two days. X-rays show the elevation of the diaphragm following such a procedure. Apicolysis may be needed if the cavity is not obliterated at the top.

A number of cases were reported of cures following surgical intervention.

In discussion, Mr. John Smith, President of the Hospital Association of Philadelphia, said that a general hospital never hesitates to admit patients with tuberculosis of any part of the body but the lungs. The equipment necessary for handling surgical chest cases is not expensive, and while special nursing may be needed, nurses quickly respond to special cases. The patients should be sent where the work is highly developed, and there is a tendency away from the specialized hospital, because of the need for consultation and group medicine in case of complications.

Dr. John D. McLean said that no drug (except morphin) is to be approved in the treatment of pulmonary tuberculosis. The only harm which hemorrhage does the patient is the scare it gives him; otherwise it is beneficial. Patients never die of hemorrhage of the lungs. All cough does not necessarily come from the lungs; unhealthy conditions of the ears, throat, etc., must be eliminated. In Pennsylvania, any patient with tuberculosis is legally subject to quarantine, provided the physician in attendance deems him so careless as to be a menace to the public. These cases should be cared for in a general hospital in separate units. Surgeons should be called in to help more frequently.

Dr. A. J. Cohen said that today the sanatorium resembles the modern hospital, is well equipped, and highly specialized. It is located outside the city, where there is more quiet and better air, and the personnel is specially trained. Fifteen years ago only incipient cases (about 15 per cent of the applicants) were handled; now 75 per cent are admitted and kept until the disease process is arrested. Collapse therapy is the greatest recent advance, for surgeons are now able to save 60 to 70 per cent of formerly hopeless cases. If more attention is given to physiotherapy, more lives can be saved. Postoperative cases should be cared for in a sanatorium, where they will have sufficient rest, fresh air, and quiet.

Dr. George P. Muller said that Dr. Lilienthal has put thoracic surgery on a footing with abdominal work. The operation itself is comparatively simple, but the handling of the handicapped patient is difficult. Rapid, careful work is needed, since rough manipulation will cause embolism. The value of apicolysis, the proper length of the rib stumps, etc., are matters to be further discussed and decided. Since the sanatorium treatment fails in a certain number of cases, these patients should have the lung put at rest and compressed. Ten per cent of the cases call for pneumothorax, and in 40 to 50 per cent of these it is successful. Two per cent require thoracoplasty, with a like prognosis. As to whether the sanatorium or general hospital is preferable, the experts on tuberculosis must judge. It depends largely on the quality of the surgical staff of the sanatorium. The patients with no cavity but with the chronic low-grade fibroid type of the disease give better end results than those with large cavities.

In conclusion, Dr. Meyer stressed the fact that his paper referred to the admission only of patients who need surgical operation, and Dr. Knopf said that patients in the last stage of tuberculosis should not be put outdoors in the cold. They should never be uncomfortable, and their beds should always be warmed.

May 26, 1926

Navy Night

Captain Arthur White Dunbar, Assistant Surgeon-General of the U. S. Navy.—Dr. Stitt has put through an educational program for the Navy Medical Corps which is equal to postgraduate work, and keeps the men in the service up with the doctors in civil practice. The medical officer has been given rank and title; his only need now is more knowledge.

Lt. Commander W. A. Bloedorn, Medical Corps, U. S. N.: Periodic Health Examinations.—Although the method of examination and by whom it shall be made may be subjects for argument, the reasons for the examination are convincing and conclusive, and permit of no argument. The patient is no longer a "sufferer," but one who demands to be kept free from suffering. The physician is no longer merely one skilled in treating disease, but one fitted also to detect disease tendencies and disease in its incipiency. He must know diet and health rules, the effects of occupation, heredity, climate, etc., and must be able to advise the patient on his whole life's routine. The new rôle of a finer diagnostician requires intense study and skill, and new diagnostic data and functional tests are needed.

The diseases which now take the greatest toll of life are, in descending order, heart affections, tuberculosis, acute and chronic nephritis, vascular disease, carcinoma, bronchopneumonia, diabetes, and the infectious diseases (typhoid, diphtheria, whooping cough, measles, scarlet fever), which last are now well controlled.

Valvular heart disease is easy to diagnose, and with the electrocardiograph the arhythmias can be interpreted. It is the state of the heart muscle that is hard to determine. That common antecedent, rheumatic fever, is difficult to cope with, since its specific cause is yet to be found. Luetic heart disease can be prevented by the periodic health examination.

The tuberculosis death rate is declining, and will continue to do so, as the examinations will detect it in its incipiency—when there is the best prognosis.

Early kidney disease is hard to detect, since the renal parenchyma may be considerably damaged before tests will give evidence. More delicate tests are needed. Many normal persons may temporarily show albumin and casts.

Cancer is steadily on the increase, and must be especially watched for in certain age groups. Much research at present is increasing our knowledge, and the

solution may not be far off. Early detection and radical removal now is our only hope.

The cause of arteriosclerosis and hypertension is still unknown, and research is needed. Whether it is a circulating toxin, or a degeneration of the vascular system has not been demonstrated. A proper diet has not been worked out. The routine of the patient's life may require a change.

The death rate from pneumonia fluctuates, and we must build up the patient's resistance. The functional capacity of any organ, except perhaps the thyroid, is not now within our power to determine. We know that all organs have to start with a reserve.

Periodic examination of Navy officers was begun in 1909, under an order signed by President Roosevelt. The examining board is made up of an internist, a surgeon, an otorhinolaryngologist, and a dentist, and a questionnaire is filled out by each patient. Corrective measures are suggested, and opportunities to carry them out afforded.

Since, in such an examination, the patient demands much, it provides healthful stimulation for the physician. Such examinations will do much toward curtailing the ranks of the cults. The success or failure will depend upon the profession.

Captain Richmond C. Holcomb, Medical Corps, U. S. N.: The Hospital Ship with the Fleet.—This paper took the form of a lantern demonstration, showing the very complete equipment on the hospital ship "Relief."

Lt. Commander George A. Eckert, Medical Corps, U. S. N.: Demonstration of Fracture Cases.—The speaker cited cases of fracture of the tibia and fibula in which calipers or tongs were used, a Thomas splint applied, elevating the patient's foot twelve inches, and a fifteen-pound weight used, with good results.

Captain George Tucker Smith, in charge of the hospital at League Island, told of the hospital built there in 1918.

Lt. Commander John M. McCants and Lieutenant Frederick Ludwig presented a clinical and pathological report of a case of metastatic tumor of the lung.

Lieutenant Frederick Ludwig, Clinical Pathologist, Medical Corps, U. S. N.: The Kahn Precipitation Test.—All reports so far have been favorable as to the practicability and sensitivity of this test for the diagnosis of syphilis. It was adopted by the Michigan State Board of Health in October, 1925, and by the Navy in December, 1925. This test is based on the principle of colloids and immunology, and may be used either as a routine test for diagnosis or to determine quantitatively the relative number of reacting bodies in treated cases. The Kahn test is rapid and simple. The antigen can be prepared in three days (beef heart, alcohol, and ether), and the test itself requires only one hour. It is the ideal biologic test for dispensary and office practice, and is especially valuable in preparing for transfusions, or when it is desirable to give immune convalescent serum. The variable factors of the hemolytic system are absent, and the ease of performance and clear-cut readings make it available for the general practitioner. No lenses or microscopes are needed.

The Kahn test agrees with the Wassermann in 90 per cent of primary cases, and in the 10 per cent of differences the Kahn is the more sensitive. In secondary cases, it is correct in 100 per cent. In the third stage the Kahn is more sensitive in the osseous cases, in tabes, and in paresis, while the Wassermann is better in visceral and cerebral involvements. Both detect latent syphilis equally, but for congenital lues the Kahn is more sensitive.

Is it too sensitive, giving false positives? In a series of 2,500 tests on nonsyphilitics, it agreed with the Wassermann in 2,493 cases. Four cases were 1 plus, two were 2 plus, one was 3 plus, and in this there was a question of poor technic. A positive Kahn test means syphilis (4 plus or 3 plus). All serologic interpretations must be made in the light of physical findings, and a negative reaction does not rule out syphilis. A spinal-fluid test should be made in all cases suggesting cerebrospinal involvement, and a second specimen should be tested in doubtful cases.

Lt. Commander Joseph J. A. McMullin, Chief of Surgical Service, Medical Corps, U. S. N.: The Use of Caudal and Spinal Anesthesia at the Naval Hospital.—Spinal anesthesia gives complete and satisfactory anesthesia for one hour, and allows the surgeon to proceed with more speed. Any headache which may occur afterwards is easily relieved by coffee and aspirin. The systolic pressure may fall from two to twenty points, and a low blood pressure is therefore a contraindication. Salt solution and adrenalin administered intravenously is the remedy for collapse should it occur. In the series there was one case of persistent strabismus after operation, but this may have been due to the spinal puncture rather than to the anesthetic.

Failure of spinal anesthesia is usually due to too short a wait (less than 15 minutes) or insufficient novocain. Sterile anhydrous novocain and adrenalin are used, one grain of novocain for each 100 pounds of the patient, and the solution made in a 10 c.c. syringe. Two grains of novocain may be given with safety. Local anesthesia is still safer.

The technic of caudal anesthesia is well known. Thirty c.c. of two-per-cent novocain is injected between the sacrum and coccyx. It produces good relaxation of the anal sphincters, but in this series there were two reactions, with general clonic and tonic contractions, cyanosis, and convulsions.

Mary A. Hipple, M.D., Reporter.

WARREN—APRIL-MAY

The April meeting was addressed by Dr. Paul G. Weston of Jamestown, N. Y., an honorary member of our Society, who showed how easy it is to overlook diseased conditions and make mistaken diagnoses because of negligence. He cited numerous cases where errors in diagnosis were made because the physician failed to use his ordinary intelligence, or failed to look further than the immediate symptom. Thus, a case of neuritis may be dependent on impacted ear wax, or it may be due to spinal tuberculosis; ulcer of the stomach may be caused by tabes; while sciatica may mean pelvic trouble, or only flat feet. Lack of care in the examination rather than lack of skill is the great cause of errors in diagnosis, and while every general practitioner cannot be a specialist in everything, he can avoid many a mistake if he will be more thorough.

Hospital cases were next presented, one an autopsy report of a cavernous-sinus case, the infection starting in a furuncle in the nose. The man was ill only 48 hours. The orbital blood vessels and veins about the sella turcica were greatly engorged, causing exophthalmus.

The May meeting was held on Monday, the 17th, at the Conewango Club. Dr. George Bennett presented a paper on thyrotoxicosis. He urged operation in the quiescent stage, and showed three patients upon whom partial operations had been done (ligations), who were apparently greatly relieved, but who might have remissions if the goiter was not removed. He spoke of the

necessity of recognizing the cardiac and renal varieties, and treating them carefully before operation; also the use of iodin before operation in the exophthalmic variety.

The June meeting was held in conjunction with the annual Northwestern Pennsylvania meeting, which convened in Warren on June 21st.

YORK—JUNE

A special combined meeting of the York Medical Club and the York County Medical Society was held in the club rooms June 5th. Drs. L. S. Weaver and C. W. Frey presided.

Resolutions were read and adopted on the death of Dr. J. B. Kain.

The most important subject of the evening was the report of Drs. Noll, Holtzapple, and Gemmill on the results of a meeting of the State Board of Medical Education and Licensure which they recently attended. Dr. Holtzapple repeated what he told the Board regarding the practice of the visiting and industrial nurses in York of diagnosing (or attempting to diagnose) and treating patients or those injured in the various industrial plants in the city, thereby encroaching upon the work of the doctors and violating the Medical Practice Act.

In the discussion, it was agreed that the nurses or any employees versed in the art of first aid can lawfully administer first aid to sick or injured people or employees, but that a physician must be called in to carry on the treatment from that time until the patient is discharged. It was thought that industrial firms are in the wrong to encourage their nurses to treat injured employees in order to save themselves or the company in which they are insured from paying a doctor for that service which rightly belongs to him.

The subject of the appointment by the State Secretary of Health of nurses instead of doctors to make school inspections was discussed. This also is apparently done for reasons of economy, even in direct violation of the Medical Practice Act, as nurses are not qualified, nor are they permitted by law, to make diagnoses.

The president of the State Board admitted, during the meeting with our committee, that the physician's rights are encroached upon, although he was not willing to say whether he would or would not give his moral support to any action that our society might take in this matter, as his board is not a legislative body.

The report of the committee was adopted. It was also resolved to send a copy of the Medical Practice Act to the Visiting Nurses' Association and various industrial concerns and compensation insurance organizations, to acquaint them with the extent to which nurses are permitted by law to treat or administer to the sick or injured.

The following delegates were appointed to attend the next State Medical Society meeting, in Philadelphia: Drs. L. M. Hartman, S. K. Pfaltzgraff; alternates—Drs. J. C. May, R. E. Butz, W. F. Gemmill, and Gibson Smith.

Dr. L. S. Weaver was appointed by the president to act as a committee on arrangements for the Councilor District meeting.

The motion was adopted that the economics committee be instructed to investigate and report at the next meeting on the details, charge, routine, etc., of periodic health examinations as carried on by the societies of the various other counties of the state.

W. Newton Long, M.D., Reporter.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. W. Wayne Babcock, *Editor*
Rydal, Pa.

WOMEN'S PROGRAM AT THE STATE MEETING

The Bellevue-Stratford Hotel will be the headquarters for all registration, information, literature, tickets, etc.

The Philadelphia County Medical Society Building, Southeast corner of 21st and Spruce Streets, will be the starting point of all motor vehicles on the various trips for the women. Luncheon will be served daily in this building, and the women will find it very comfortable to use as a meeting place. Traffic congestion in the center of the city makes it very unwise to attempt transportation from the hotel.

Monday, October 11

5:30 p. m. Supper for the Executive Board, place to be announced later.
8:00 p. m. Theater party for delegates and their wives.

Tuesday, October 12

9:30 a. m. At the Bellevue-Stratford. Conference for county presidents and secretaries, called by the State president for the purpose of unifying methods of correspondence, collection of dues, etc.
9:30 a. m. Meeting of the nominating committee.
10:30 a. m. At the Bellevue-Stratford. President Albertson's address. All Auxiliary members are urged to attend this session, as it is most instructive to have the president's point of view as to the work of the coming year.
2:00 p. m. Drive starting from the County Medical Building. Tea at the home of Dr. and Mrs. W. Wayne Babcock.
8:00 p. m. Women's theater party.

Wednesday, October 13

9:30 a. m. General session of the Woman's Auxiliary, open to all visiting women. Reports from counties and election of officers.
11:30 a. m. Drive to the Navy Yard and the Sesqui-Centennial grounds. Luncheon can be obtained at the Indian Queen Inn or Mt. Vernon House.
8:00 p. m. Public meeting at the Bellevue-Stratford.
9:30 p. m. President's reception and ball at the Bellevue-Stratford.

Thursday, October 14

Open for visiting the Sesqui-Centennial.

The cascara industry will soon be a thing of the past, if drastic preventive measures are not taken to conserve the supply. The cascara tree grows on the western side of the Cascade Mountains from Northern California to British Columbia.

THE

MEDICAL SOCIETY OF DELAWARE

PEPTIC ULCER*

JOHN B. DEAVER, M.D.

PHILADELPHIA, PA.

It has been said that the evolution of a gastric or duodenal ulcer is a calamity in a man's life, since it attacks him during the period of greatest vigor and usefulness.

Choice Between Medical and Surgical Treatment

In the early stages of ulcer, medical treatment, including dietetic measures, should be tried. This treatment, however, does not always produce a cure, but a large proportion of such cases may be cured by operation. Surgery, however, should be resorted to only when medical treatment has failed.

Why are not all cases cured by medical treatment? The answer to this question can be forthcoming only when we have a better understanding of the etiology of ulcer, and the pathologic effects of long-standing ulcer are better known. By the latter remark I mean that the medical man must see more operations, and with the surgeon and pathologist must examine the excised ulcer with its surrounding exudate and fibrosis to appreciate the ravages which the inflammatory process has produced.

The pathologist's microscopic study of gastric and duodenal ulcers shows that they have definite characteristics of their own, undoubtedly the result of the action of the digestive processes in a part of the stomach or duodenal wall already damaged before the ulcerative process has started, for the normal stomach wall is not damaged by normal gastric digestion. But what is this something that has taken place before the ulcerative process has started? Let us call it lowered resistance to infection. Lowered resistance means vulnerability, and infection reaches the vulnerable stomach wall by one of two routes—the blood stream or the lymph stream. Rosenow champions the former route, while Moynihan advocates the latter route. My experience also induces me to declare in favor of the lymph stream, and furthermore, I believe the appendix is the most common offender. This belief has been forced upon me by the numerous cases of ulcer I have seen in which the appendix is diseased, and also by the careful preoperative study of ulcer cases in which the appendix had already been removed, and by the absence of any other visceral focus of infection. While I agree with Rosenow that peptic ulcer may have its primary focus of infection in the teeth, tonsils, etc., I do not believe that this is the origin in the majority of cases.

The lowered resistance of the stomach wall offers a favorable soil for the lodgment of infection. Peptic ulcer occurs only in the parts of the alimentary canal where acid gastric juice is normally present. As a result of the lowered resistance, healing of the ulcer is prevented, and the acid gastric juice, playing the part of a cauterizing agent, is responsible for the periulcerous exudate and fibrosis, and the resulting entangling alliances with surrounding organs which are often most difficult to dissociate. The triple alliance thus formed consists of lowered resistance, infection, and extensive fibrosis. Those of us who have often dealt with periulcerous exudate infiltrating the pancreas can substantiate the above statement.

The possibility of this unholy alliance is enough to justify surgical treatment where well-tried medical treatment has been futile in producing healing of the ulcer. Surgical treatment is prompt and usually permanent, while medical treatment is uneconomical and dangerous in that the patient is exposed to the risk of perforation, hemorrhage, or carcinoma at the site of the gastric ulcer. The gastro-enterologist says it takes from nine months to two years to obtain a medical cure. Is this, then, the treatment for the poor workman who earns his food by the sweat of his brow? This brings to mind the statement of Dr. William J. Mayo, who says he operates on the patient who has had twelve medical cures. You are all familiar with the common history, particularly of duodenal ulcer, of intervals of freedom from symptoms, which oftentimes leads to the belief that medical treat-

*Read before the New Castle County Medical Society, Wilmington, Delaware, May 18, 1926.

ment has produced a cure, while these intervals of freedom are but manifestations of the natural course of the disease.

The etiology of duodenal, of marginal, or gastrojejunal, and jejunal ulcer is the same as for gastric ulcer.

The more common site of duodenal ulcer is on the anterior wall. Gastric ulcer is more frequent on the lesser curvature, usually not far distant from the pylorus, on either the posterior or the anterior wall close to the lesser curvature. Ulcer at the site of the opening of the esophagus into the stomach and in the fundus of the stomach is very rare, and therefore of little practical importance. However, in examination of the stomach at operation I always have this in mind.

The most important questions, of course, are the diagnosis and the proper treatment. The diagnosis hinges on the history, its careful interpretation, the result of the fractional test meal, and a careful x-ray and fluoroscopic study. Unfortunately, a correct history is not always obtainable. For example, the patient often is a foreigner who neither speaks nor understands English, so that we must depend upon an interpreter. This always makes the information more or less questionable. And then, even the intelligent patient is not always able to give a correct story of his trouble. The fact also must not be forgotten that an ulcer may give only atypical symptoms that are of a mixed type, and as suggestive of chronic appendicitis, chronic cholecystitis, and chronic pancreatitis.

The typical history of the typical ulcer is unmistakable, and if, in addition, x-ray findings are positive and the fractional test meal for acidity is high, the diagnosis is practically certain. I attach most importance to the fractional meal, while I obtain little aid from the full meal, except if the entire meal is recovered, which, of course, indicates pyloric obstruction, especially when the investigation is carried further by adding raisins or prunes to the meal. If these are recovered in the stomach washings after twelve or fifteen hours, the presence of obstruction is unmistakable. I consider this as reliable in detecting obstruction as the barium or bismuth meal with fluoroscopic examination, and it is a test that can be used anywhere at any time. Some authors lay much stress on the value of the test meal as an indication of the line of medical treatment to be pursued, basing it on the quality of the gastric secretion. This may or may not be so, but to me its diagnostic value is of moment.

The average patient, however, with the present craze for "having a picture taken" will not be content with this test alone. I do not share the general enthusiasm about having pictures taken, not only on account of the expense to the patient, but also because the information I get is not by any means always borne out by the operative findings. After all, the only absolutely sure test is incision and inspection. It has been truthfully and well said by Sir Berkeley Moynihan that there are only two ways of making a diagnosis of gastric ulcer, x-ray or operation, preferably the latter which places us with both feet on the ground.

Acute and subacute perforated ulcer, and especially the acute type, are often seen. Both should be recognized, and particularly the acute, which should be operated upon at once. The patient with an acute perforated ulcer will rarely get well without surgery, although occasionally spontaneous recovery may take place when the perforation has been very small, and sealed off by contact with a neighboring viscus or the omentum. But this is so rare that not to operate in these cases is, to say the least, an indictable offense. An attack of acute agonizing upper-abdominal pain, immediately followed by board-like rigidity of the abdominal walls, in most instances indicates acute perforated ulcer, and demands immediate operation. Not infrequently an acute perforation occurs and subsides without a definite diagnosis having been made, or if diagnosed, is treated medically. I have known of many such instances.

The massive indurated ulcer giving but few symptoms is one of the surprises often revealed at operation. In my experience, the small, insignificant, harmless looking ulcer is the one which causes the greatest distress to its victim. Not to operate for want of an ulcer history is exposing the patient to unjustifiable risks. Should an ulcer not be found, there will probably be enough pathology to have warranted the operation.

Oftentimes the patient is so obsessed with the desire for relief that his mind is in no condition to give a correct history of previous digestive trouble on which to base a diagnosis. Frequently, also, perforated ulcer occurs in patients who have never had definite digestive symptoms, just as we sometimes find nonperforated ulcers without an ulcer history.

The diagnosis of a subacute perforation is not so easily made as that of an acute perforation. It is very apt to be confused with gall-bladder disease, although the history, the site of greatest tenderness, the presence of a mass medial to the usual position of the palpable gall bladder will help to establish a diagnosis.

As already stated, surgery cures a large per-

centage of the ulcer cases, but it must be admitted that not all operated cases are always free from symptoms. Why, is not definitely known. I am now supplementing my gastro-enterostomies for ulcer with a jejuno-jejunostomy close to the gastro-enterostomy, hoping in this way to obtain a more thorough alkalinization than is obtained by gastro-enterostomy alone. I am looking forward with great interest to our follow-up records of the patients upon whom this operation is being done.

It has been my experience that the patients who before operation have had a very high acidity are the less likely to be as greatly benefited by operation as are those who had either a moderate degree of acidity or anacidity before operation. In other words, the amount of the duodenal contents getting into the stomach through the gastro-enterostomy is not sufficient to cause enough alkalinization to procure the desired result. In the postoperative study of our follow-up patients by Dr. Stanley P. Reimann, the director of our research laboratory, he found that those having low acidity or anacidity had few, if any, complaints, while those with comparatively high acidity still complained of more or less digestive disturbance. The subtotal gastrectomies also had practically little or no acidity, and few, if any, digestive symptoms.

The latter findings, however, have not influenced us to be too radical in our surgery, since we have not as yet had enough cases and sufficient time has not elapsed to warrant an opinion and to justify too radical surgery in these cases. The argument offered by the ultra-radical abdominal surgeons is the absence of postoperative acidity and the absence of marginal or gastrojejunal ulcer. While this may be true as to the former, it has yet to be proved with regard to the latter. As I view it, the pathologic findings, except in carcinoma and in very large indurated ulcer of the stomach, do not warrant the sacrificing of so much of the normal stomach wall. Again, in the presence of a recurrent ulcer, either at the site of the new opening or elsewhere, surgery for its correction would be very seriously handicapped. The findings of our laboratory in the postoperative x-ray study have shown that in the presence of a patulous pylorus with a gastro-enterostomy, where practically all of the barium meal passes out of the stomach through the new opening, the patient is apt to be more comfortable than when some of the meal passes out through the pylorus. This substantiates the fact that gastro-enterostomy gives the best results when done for cicatricial stenosis of the pylorus. These are the facts which I was eager to bring before you.

Operative Treatment

Let us first discuss the treatment of gastric ulcer. The most common site of this type of ulcer is upon either wall of the lesser curvature, more commonly the posterior wall. In the majority of cases of ulcer of the lesser curvature, subtotal gastrectomy is the choice. When the ulcer is proximal to, or not far distant from the pylorus, a Billroth No. 1 may be done; but unless the operator has had a rich experience in visceral surgery, a subtotal gastrectomy is a safer measure than the Billroth No. 1, since it carries with it less risk of leakage. In subtotal gastrectomy, sectioning the stomach well to the left of the antrum will yield better end-results, with less chance of subsequent trouble, inasmuch as there is apt to be less acidity after operation, and therefore perhaps less chance of the subsequent formation of marginal or gastrojejunal ulcer. Subtotal gastrectomy does not entirely preclude the possibility of marginal or gastrojejunal ulcer. Gastro-jejunostomy alone at the present time scarcely has a place in the treatment of gastric ulcer, except after excision of a small ulcer, or where there is cicatricial obstruction of the pylorus. In such circumstances it still remains the operation of choice in the greater number of cases.

For an ulcer of the lesser curvature, when favorably situated, and in the absence of duodenal complications, it is my practice to make a circular or sleeve resection. This operation has given me such excellent results that I have no hesitancy in advising it.

While duodenal ulcer is more common than gastric ulcer, its surgical treatment is less well-defined. European clinics have of late years been favoring more radical surgery than merely a gastrojejunostomy, but so long as the radical operation does not entirely preclude that most discouraging postoperative possibility, marginal ulcer, it remains a debatable, if not a questionable measure. On the other hand, there must also enter the question of the surgeon's experience and skill, and, what is of equal importance, the individual conditions encountered at operation.

For a duodenal ulcer of the anterior and anterolateral wall in the absence of extensive fibrosis, excision or cautery destruction of the ulcer, with closure of the opening and a posterior gastrojejunostomy, is the best procedure. The advantage of removal or destruction of the ulcer is the lessened risk of future perforation and bleeding. When there is extensive fibrosis or organized peri-ulcerous exudate, a posterior gastrojejunostomy alone is the better operation.

For a small duodenal ulcer near the pyloric ring, a Finney or a Horsley pyloroplasty is sometimes chosen, but personally I rarely do this operation. Pyloroplasty, however, is contraindicated where there are adhesions which prevent mobilization of the duodenum. In fact, in the obstructive type, gastrojejunostomy is the better operation, but for the comparatively large indurated ulcer, partial gastrectomy may be the better operation where a pyloroplasty cannot be done.

Where the ulcer is large and so located as to permit amputation of the duodenum without risk of injuring the head of the pancreas, a Billroth No. 1 is one of the best procedures.

One of the two chief objections to the original Billroth No. 1 is that the anastomosis is made along the greater curvature of the stomach. This makes closure of the upper portion of the duodenal stump difficult, and frequently there is leakage in this area, which is called the deadly triangle. A modification of the operation has recently been suggested by Alvarez, and more recently by Eugene Klein of New York. The general axis of peristalsis, as is well known, is along the lesser curvature of the stomach. Their researches have shown that the lesser curvature appears to contain a type of neuromuscular tissue in which gastric peristalsis seems to originate. An ulcer along the lesser curvature will produce contraction of a segment of the stomach corresponding to the ulcer, and frequently will form an hourglass stomach, while a similar lesion along the greater curvature may have but little effect, and often gives no symptoms. They consequently suggest modifying the Billroth No. 1 operation by making the anastomosis along the lesser curvature of the stomach instead of along the greater.

Medical News

Deaths

Mrs. Cleland, wife of Dr. T. B. Cleland, and mother of Dr. Wm. D. Cleland, of New Castle; recently.

Mrs. Bertha Sharbaugh Anderson, wife of Dr. Guy R. Anderson, of Barnesboro; May 15, in Atlantic City.

John A. Brophy, M.D., of Philadelphia; Medico-Chirurgical College of Philadelphia, 1897; eye specialist; aged 61; June 10.

Charles L. Gangloff, M.D., of Pittsburgh; Cleveland University of Medicine and Surgery, 1892; aged 57; April 12, of pneumonia.

Elliott S. Riggs, M.D., of Washington; Jefferson Medical College, 1869; Civil War veteran; aged 83; May 2, of cerebral hemorrhage.

Samuel H. Smith, M.D., of McKeesport; College of Physicians and Surgeons, Baltimore, Md., 1881; aged 70; March 6, of carcinoma of the bladder.

Sir Henry Morris, editor of Morris's *System of Anatomy;* June 14, in London. He was founder and vice-president of the Imperial Cancer Research Fund.

Willet P. Hughes, M.D., of Bloomsburg; University of Pennsylvania School of Medicine, 1897; served during the World War; aged 55; April 26, of ruptured aorta caused by a fall.

Caleb J. McNulty, M.D., of Washington; Western Reserve University School of Medicine, Cleveland, 1869; Civil War veteran; formerly a druggist; aged 85; April 29, of pneumonia.

Sumner D. Davis, M.D., of Jermyn; Medical School of Harvard University, Boston, 1869; also a druggist; postmaster for fifteen years; formerly secretary of the board of health, and for thirty-two years health officer; aged 80; April 11.

Abbe Auguste J. E. Tauleigne, France; June 5, from the effects of x-rays. For the last twenty-eight years Father Tauleigne had studied radiology. He received the Carnegie Medal and prize of 5,000 francs in 1923 for his experiments, in which he was seriously burned.

Michael O'Hara, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1890; served as a major in the Spanish-American War; attached to the United States Veterans' Bureau after the World War; resident physician of the Overbrook Seminary, the Philadelphia General Hospital, and the House of the Good Shepherd; aged 57; June 9.

Henry Skinner, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1884; an authority on the gypsey moth and Japanese beetle; associated for a time with Dr. William Goodell, but since 1900 had devoted his entire time to entomology; received the degree of Doctor of Science from the University of Pittsburgh; elected president of the American Entomological Society in 1909; founder and former secretary of the Geographical Society of Philadelphia; professor of entomology of the Horticultural Society; fellow of the American Association for the Advancement of Science; delegate to the International Tuberculosis Congress; lecturer to the Ludwick Institute, delegate to the Seventh International Zoölogical Congress; former State Entomologist of Pennsylvania; member of the International Zoölogical Commission, etc.; aged 65; May 29.

Births

To Dr. and Mrs. Isaac Starr, Jr., of Philadelphia, a son, June 8.

To Dr. and Mrs. Harry Gallager, of Chester, a son, Donald Johnson Gallager, May 4.

To Dr. and Mrs. Temple S. Fay, of Philadelphia, a daughter, Marion Amelia Fay, June 10.

To Dr. and Mrs. Harold R. Warner, of Kulpsville, a daughter, Betty Jane, May 6, 1926.

To Dr. and Mrs. J. Edward Loughridge, of Philadelphia, a son, James Barry Loughridge, June 7.

To Dr. and Mrs. R. J. Bower, of Williamsport, twin daughters, Jean Frances and Jane Florence, May 24.

To Mr. and Mrs. George N. Ewing, Glenside, a son, George N. Ewing, 2d, May 25. Mrs. Ewing is a daughter of Mrs. H. F. Fussell and the late Dr. Fussell of Philadelphia.

Engagements

Miss Mildred E. Werst, of Bethlehem, to Mr. J. Donald Reiter, son of Dr. and Mrs. A. S. Reiter, of Myerstown.

Miss Margaret Fox, daughter of Dr. and Mrs. Herbert Fox, of Philadelphia, to Mr. J. Harold Hentz, also of that city.

Miss Nancy McKee, daughter of Dr. and Mrs. James H. McKee, of Philadelphia, to Mr. William H. Hobson, Jr., of Philadelphia.

Miss Marjorie Read, dietitian of the Geisinger Memorial Hospital, Danville, to Dr. C. E. Ervin, chief of the medical staff of the hospital.

Miss Kate M. Wheelock, of West Newton, Mass., to Mr. J. Warren Shoemaker, son of Dr. and Mrs. William Toy Shoemaker, of Philadelphia.

Miss Margaret Packard, daughter of Dr. and Mrs. Francis R. Packard, of Philadelphia, to Mr. John H. W. Rhein, son of Mrs. John H. W. Rhein and the late Dr. Rhein, of Philadelphia.

Marriages

Miss Marie Louise Haussmann, to Dr. Franklin A. Weigand, of Philadelphia, May 26.

Miss M. Elizabeth Gitt, of Hanover, to Dr. Forrest G. Schaeffer, of Allentown, June 3.

Miss Catherine Keen, daughter of Dr. C. E. L. Keen, of Harrisburg, to Mr. Lester L. Lessig.

Miss Evelyn Raiguel Page, daughter of Dr. and Mrs. Henry F. Page, of Philadelphia, to Mr. Roland Evans Roberts, June 12.

Miss Elizabeth White, daughter of Judge and Mrs. John J. White, of Atlantic City, to Dr. D. J. McCarthy, of Philadelphia, June 21.

Miss Gladys E. Kendrick, of Pottstown, to Dr. Chas. R. Dwyer. Dr. Dwyer is a 1926 graduate of Jefferson Medical College, and will intern at the Abington Memorial Hospital.

Miss Leonora Armentrout Seneker, daughter of Rev. and Mrs. H. F. Seneker, of Pottstown, to Dr. Walter Blair Stewart, son of Dr. and Mrs. W. Blair Stewart, of Atlantic City, N. J., June 9, at Pottstown.

Miscellaneous

Dr. and Mrs. William Campbell Posey, of Radnor, sailed June 5 to spend the summer in Brittany.

The Pennsylvania School of Social and Health Work, of Philadelphia, graduated 31 (all women) in welfare work, June 17.

Dr. and Mrs. George P. Muller, and Miss Helen Muller, of Philadelphia, sailed for Honolulu June 28, to remain until September.

Boumi Temple, Baltimore, Md., has contributed $10,000 to the Shriners' Hospital for Crippled Children, Philadelphia.

Dr. and Mrs. Samuel Z. Shope, of Philadelphia, recently sailed for Europe, where they will spend three months.

Dr. Luther C. Peter, of Philadelphia, received the honorary degree of Sc.D. from Gettysburg College at the Commencement on June 9 of this year.

Dr. Henry K. Gaskill and his daughter, Miss Dora Elizabeth Gaskill, of Melrose Park, sailed July 1st for a two months' Mediterranean cruise.

Dr. A. C. Morgan, of Philadelphia, had the honorary degree of Doctor of Science conferred upon him by Susquehanna University at the Commencement, June 9.

The degree of Doctor of Science was conferred upon Dr. Horace V. Pike, of Danville, at the annual commencement of Susquehanna University held on June 9.

The $100,000 annex of the Columbia Hospital, Columbia, was dedicated May 30. The structure was financed by the citizens of Columbia and near-by communities.

At the recent sessions of the seventy-seventh annual State Council of the Improved Order of Red Men, Dr. Andrew Callahan, of Philadelphia, was raised to the office of Grand Prophet.

Dr. Paul J. Pontius, Philadelphia, was elected Grand Commander of the Grand Commandery of Knights Templars of Pennsylvania, at the annual conclave held at York, in May.

Mr. Samuel M. Vauclain, of Philadelphia, President of the Baldwin Locomotive Works, was the principal speaker at the dedication of the $5,000,000 annex to St. Joseph's Hospital, Reading, June 13.

The Jefferson Medical College conferred the medical degree on 144 graduates in June, 49 of whom received commissions as first lieutenants in the Medical Officers' Reserve Corps of the United States Army.

Dr. John B. Deaver, of Philadelphia, was the principal speaker at the annual session of the Maine Medical Association, June 11. His address was "Surgical Versus Medical Treatment of Gall-Bladder Diseases."

Dr. and Mrs. Biddle R. Marsden, Chestnut Hill, are sailing for Europe early in August to spend two months traveling in Holland and Switzerland. They will return to this country in October.

Dr. W. N. Stein, of Shenandoah, recently suffered an acute attack of gangrenous appendicitis, and was taken to the State Hospital at Fountain Springs. He was reported to be resting comfortably after his operation.

Dr. Ella N. Ritter, of Williamsport, sailed June 12 with a party of seventy-five physicians, from all parts of the United States, for a medical tour of Europe, the tour being conducted by a Travel Study Club of America.

Dr. Julian Ellis Kurtz, of Reading, who recently retired from the practice of medicine, has donated to the Berks County Medical Society 400 volumes, mostly on subjects related to diseases of the eye, ear, nose, and throat.

Dr. Clement R. Jones, of Pittsburgh, was guest of honor and chairman of the annual meeting of the Genesee County Medical Association at Dansville, N. Y., which was held at the Jackson Hotel and Health Resort, June 4.

At the Commencement of Temple University held June 7, there were 51 graduates in the School of Medicine; 93 in the School of Dentistry; 121 in the School of Pharmacy, and 16 from the Nurses' Training School of the Samaritan Hospital.

Dr. Basil R. Beltran has been appointed surgeon-in-chief at St. Mary's Hospital, Philadelphia. Two years ago he succeeded the late Dr. Ernest LaPlace as surgeon-in-chief at the Misericordia Hospital, which appointment he still retains.

The ten-day campaign for funds for the Memorial Hospital of Roxborough resulted in the collection of $204,955. The sum desired is $250,000, and it is believed that this amount will be collected by the time actual construction is under way.

According to the will of the late William Potter, who was president of the Jefferson Medical College and Hospital, a fund of $50,000 for the Jefferson Medical College is included in the bequests. The estate is valued at approximately $1,000,000.

Dr. J. Norman Henry has been elected a trustee of the University of Pennsylvania. Dr. Henry, who is president of the General Alumni Association of the University, will fill the vacancy caused by the death of Mr. John Cadwalader. There remain two vacancies to be filled.

Dr. Herbert M. Goddard, Philadelphia, has been appointed Otorhinolaryngologist to the Shriners' Hospital for Crippled Children in Philadelphia. He spent the past summer in Europe studying penal institutions, as

he has been trustee of the Eastern State Penitentiary for some years.

The Wills Eye Hospital, Philadelphia, has been placed on sale. The property, purchased in 1831 for $20,000, is now considered worth $1,500,000. The resources are too small to maintain the present institution properly. Upon sale of the present property, a new site will be secured, and a modern hospital erected.

At the instigation of the Bucks County Medical Society, two chiropractors were arrested recently in Quakertown—M. B. Thomas, a woman chiropractor, and Arno E. Herzer. Bail of $300 for each was furnished by local business men.

New York University will begin a campaign for $73,000,000 for additional land, buildings, and endowment in celebration of its centennial in 1931. Of this amount, $3,000,000 will be used for land and buildings for the medical and dental colleges.

Northwestern University, Chicago, at its Commencement in June, conferred a degree on a blind youth. The required academic work was read to him throughout the course by his mother, who helped him about the campus and assisted him in receiving his diploma.

Miss S. Lillian Clayton, director of nurses, Department of Public Health, and superintendent of nurses at the Philadelphia General Hospital, was elected national president recently at the biennial convention of the American Nurses' Association at Atlantic City.

The Essex Market Court in New York City has unearthed a "cripple factory," where cripples, armless persons, and even hunchbacks can be made to order. A mendicant who had been arrested, was found to have his right arm skillfully bandaged and taped to his side.

Dr. Chevalier Jackson, of Philadelphia, was elected president of the American Laryngological Association at its recent convention held in Montreal. Two other Philadelphians were among the officers elected—Dr. George M. Coates, secretary, and Dr. George Fetterolf, treasurer.

At the annual celebration of the University of Pennsylvania Alumni, June 17, the main feature was the sixtieth reunion of the medical class of 1866, six being present. A statue of Dr. Edgar Fahs Smith, professor emeritus of chemistry, and provost of the University from 1911 to 1920, was unveiled on the small triangular plot of ground facing Thirty-fourth and Locust Streets.

The Bryn Mawr Hospital, Bryn Mawr, closed its campaign for $1,000,000 on June 12, at which time it was announced that the drive was oversubscribed $275,948. In addition to this, memorials were reported running into thousands of dollars. The general subscriptions will be used for the enlargement and improvement of the institution, the cost of the work being estimated at $1,500,000. It was announced that the balance would be raised "some other way."

The United States Civil Service Commission has announced an open competitive examination for a Junior Medical Officer (intern). Applications will be rated as received until August 31. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil-service examiners at the post office or customhouse in any city.

An employee of a Philadelphia firm of contractors was injured by the explosion of a gasoline drum, permanently crippling his left arm and hand. The Court of Common Pleas awarded a verdict of $35,000. The President Judge upheld the verdict, and refused a motion for a new trial, declaring that although the verdict was large, it was not excessive, because the man was crippled for life and prevented from following any occupation.

Anesthetists Meet.—The annual meeting of the Midwestern Association of Anesthetists will be held October 11-14, 1926, in Kansas City, Mo., at the same time as Clinic Week there. Headquarters—Baltimore Hotel. An interesting and attractive program is in the process of making. Any physician or dentist desiring to read a paper should send the title of his paper to the secretary very soon. Address Ralph M. Waters, M.D., 425 Argyle Bldg., Kansas City, Mo.

The Philadelphia County Medical Society is conducting a series of popular lectures for the public each Tuesday evening, in the auditorium of the County Society Building. The object of these meetings is to advise the laity of the value of preventive medicine. The drive against cancer, the value of periodic health examinations, the evils of venereal diseases, ways and means of eradicating the acute contagious and infectious diseases, etc., will be stressed.

England's New Penal Code.—On June 1, 1926, the greater part of the provisions of the Criminal Justice Act of England passed last December became effective. The minimum penalty for drunken joyriders will be four months' imprisonment, or a fine of £50, or both. The licenses of those convicted, automatically will be suspended for one year. A fine of £50 will be imposed upon any one making a false declaration, as for instance in the notice of marriage or in registering births and deaths.

A farewell dinner was given to Dr. J. E. Sweet, who has conducted the Department of Surgical Research at the University of Pennsylvania for twenty years, at the Penn Athletic Club on Saturday, June 5, before his leaving to assume the Chair of Surgical Research at Cornell University Medical School. Dr. George Dorrance presided, and speeches were made by Drs. William Pepper, Stewart, G. W. Norris, E. B. Krumbhaar, De Witt C. Guthrie, A. E. Richards, and others.

The American Therapeutic Society held its annual convention in Philadelphia in June at the Benjamin Franklin Hotel. The visiting members were guests at a luncheon given by Dr. W. Wayne Babcock at his home in Rydal. Announcement was made of the useful results obtained by a newly developed drug, ephedrin, which, it was declared, has proved valuable in maintaining normal blood pressure, this contribution being presented by Drs. R. D. Rudolph and J. D. Graham of the University of Toronto Medical School.

The House of Delegates of the Medical Society of the State of New York, at its meeting in April, 1926, approved a report of the Reference Committee on Nursing recommending the establishment of an official nurses' registry in every county of the state on the model of the one already established and functioning in Buffalo (described in the May, 1926, number of this Journal). Following this action, the Nurses' Official Registry of Brooklyn has been established by the local branch of the State Division of the American Nurses' Association.

Strange Sea Illness.—A mysterious disease has appeared in Germany recently and has caused so much excitement that the Prussian Lower House has appropriated $120,000 to have it scientifically investigated. This new affliction attacks fishermen in that part of the Baltic known as "The Haff." It grips its victims when they are at sea, suddenly and without warning. Severe pains in the muscles of the arms and legs are followed by temporary paralysis. The attack ceases within a few hours after the patient is once more on land, but is apt to break out again as soon as he goes to sea. No adequate explanation has yet been found for it.

"Founders' Night," in which special testimony was paid to the thirteen original founders of the Medical Club of Philadelphia, was celebrated by members of that organization recently in a ceremony and quarterly meeting held in the Bellevue-Stratford Hotel. Those honored were: Drs. W. Easterly Ashton, James W. Barton, L. Webster Fox, T. Chalmers Fulton, George Goebel, Hobart A. Hare, G. Betton Massey, Charles K. Mills, Edward E. Montgomery, J. Edward Wallace, George E. de Schweinitz, S. MacCuen Smith, I. P.

Strittmatter, and James Van Buskirk. The chief address was made by Dr. Van Buskirk.

FIGHT BOOTLEG DRUG STORES.—A state-wide campaign against establishments operating as "drug stores," but with a primary purpose to sell liquor, was planned during the fifty-sixth annual convention of the New Jersey Pharmaceutical Association, held in Atlantic City, June 8-11. The association, said Dean B. Crawford, local secretary, will demand state registration of all drug stores. He declared there are 120 drug stores in Atlantic City, but only sixty-eight operated by registered druggists. "Any one at all can go into the business in this state," he asserted. The convention urged all druggists to carry stocks of serums and antitoxins, and considered the problems presented by "cut-rate" drug sales.

COÖPERATION WITH THE Federal Prohibition Director in the enforcement of the Eighteenth Amendment was pledged in a resolution drawn by members of the Philadelphia branch of the American Pharmaceutical Association when the May session was held. A second resolution protested alleged interference of the Government with the medical and pharmaceutical service to the public. It follows: "*Resolved,* That the Philadelphia branch of the American Pharmaceutical Association respectfully protests against the Senate bill 4085, a bill referring to the Harrison Narcotic Act, as we consider it unwarranted interference with the medical and pharmaceutical service to patrons and public." Both drafts were unanimously passed by a vote of the members.

THE EXPORT OF OPIUM FROM INDIA, except for medicinal purposes, will cease in ten years, according to a government announcement just made public. The loss in revenue involved, it was stated, will be $7,200,000 annually, and to avoid too serious an economic effect, a gradual curtailment covering the ten years has been arranged. The first 10-per-cent decrease will be effected in 1927, and the final export will take place in 1935. The Government of India has decided to fix ten years as a period within which the export of opium from India for other than strictly medical purposes will be progressively and finally extinguished. During this period, exports will be by direct sale to the governments of importing countries. This news is very important to Americans interested in opium, because the withdrawal of the American delegation from the conference at Geneva in 1925 hinged largely on the question of the date when the suppression of smoking opium would begin. India, by this announcement, indicates that she will begin her part in 1927 and totally extinguish her export for other than medicinal purposes in 1935. The attention of the world interested in opium reform now shifts to the action which the eastern colonies of European powers will take. No matter whether other countries, such as Holland, France, Portugal, Great Britain, and Japan continues to allow the smoking of opium under their flags, the Government of India will no longer share the blame.

INFORMATION DESIRED.—The board of directors of the Philadelphia County Medical Society is very eager to obtain information concerning certain of the founders of that society. Fortunately, information has been secured relating to most of them, which, with their photographs, is now available for historical classification.

Some of the founders had lived outside the city of Philadelphia, or were buried outside the city; they may have been known by physicians or others outside the city; and it is hoped that some of the older physicians resident in the state may have some information about some of them that will enable them to be traced. Any information that will furnish a clue, however slight it may be, will be welcomed. Any photograph in the possession of physicians or their friends is especially desired.

Those of whom information is sought are as follows:

Founders—Dr. William Curran, Dr. William H. Tingley, Dr. Robert Foster, Dr. Thomas Hobson, Dr. James McCulloh, Dr. Frederich A. Martin, Dr. John M. Pugh, Dr. Neville C. Reid.

Ex-Presidents—Dr. Benjamin Horner Coates (1859), Dr. George Hamilton (1868), Dr. Francis M. Perkins (1903).

Any information may be sent to The Philadelphia County Medical Society, S. E. Corner, 21st and Spruce Streets, Philadelphia, and will be acknowledged with thanks.

TO ENCOURAGE INVESTIGATIONS of alimentary-tract function, Dr. Frank Smithies, Chicago, has presented to the School of Medicine of the University of Illinois, bonds in amount sufficient to yield annually, in perpetuity, not less than $100. This fund is known as the "William Beaumont Memorial Fund," and the income therefrom as the "Annual Beaumont Memorial Award."

The award is to be made each year to the research or clinical investigator, who, in the judgment of a faculty committee, has contributed the most important work during the year, in the field designated. The first award will be made in 1927. Manuscripts covering investigations do not have to be entered specifically for the award, nor is it required that they be submitted to the faculty committee. The award is to be granted by the committee after it has considered carefully all investigations published during any year in periodicals throughout the United States. Thus, the award is available to workers in any institution, and is not confined to members of either faculty or student body of the University of Illinois.

THE 74TH ANNUAL COMMENCEMENT of the Woman's Medical College of Pennsylvania which took place on June 9th at the Garrick Theater in Philadelphia added twenty-nine young women physicians to the alumnæ of this institution.

The commencement address was given by Dr. John A. Lichty, Superintendent of Clifton Springs Sanitorium and Clinic, Clifton Springs, New York, who stated that "matrimony and medicine are anything but incompatible. The woman who is successful in carrying out a career in the profession of medicine is the very woman upon whom the obligations of matrimony should rest with the greatest weight. The physician who has children is more likely to get the proper point of view.

"The urge toward the city has been so strong that there has been abundant evidence of an actual breakdown of our present system of rural medical service, as well as an impending discontinuance of family practice in both urban and rural communities. It is not generally known that the country doctor, besides living longer, lives more comfortably than the city doctor; lives in a better house, usually his own; and enjoys a greater independence. The country doctor has more opportunity to develop the varied talents with which he may be endowed. There is every indication that a greater demand for the physician who is willing to take up family practice, whether it be in the city or in the rural districts, must soon be supplied."

BOOKS RECEIVED

NURSERY GUIDE. By Louis W. Sauer, Ph.D., M.D. Senior Attending Pediatrician, Evanston Hospital; formerly Assistant Attending Physician Children's Memorial Hospital, Chicago, Ill. Second edition. St. Louis: The C. V. Mosby Company, 1926. Price, $2.00.

A MANUAL OF NORMAL PHYSICAL SIGNS. By Wyndham B. Blanton, B.A., M.A., M.D., Richmond, Va. Associate in Medicine, Medical College of Virginia. St. Louis: The C. V. Mosby Company, 1926. Price, $2.50.

THE THYROID GLAND. By Professor Charles H. Mayo and Professor Henry W. Plummer. St. Louis: The C. V. Mosby Company. Price, $1.75.

(Concluded on page xiv.)

THE PROGNOSIS IN FERMENTATIVE DIARRHEA

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BOOKS RECEIVED

(Concluded from page 738.)

DISEASES OF THE SKIN. By Richard L. Sutton, M.D., LL.D., F.R.S. (Edin.). Professor of Diseases of the Skin, University of Kansas School of Medicine; Assistant Surgeon, United States Navy, Retired; Dermatologist to the Atchison, Topeka and Santa Fe Hospital Association. 1,147 illustrations, and 11 colored plates. Sixth edition, revised and enlarged. St. Louis: The C. V. Mosby Company, 1926. Price, $12.

A TEXTBOOK OF UROLOGY. By Oswald Swinney Lowsley, A.B., M.D., F.A.C.S. Director of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital; Consulting Urologist to the Hospital for the Ruptured and Crippled; and Thomas Joseph Kirwin, Ph.D., B.S., M.A., M.D. Chief of Clinic of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital; Assistant in Urology, Cornell University Medical College. Illustrated with 233 engravings, and 13 plates. Philadelphia and New York: Lea & Febiger, 1926. Price, $10.

PRINCIPLES OF HUMAN PHYSIOLOGY. By Ernest H. Starling, C.M.G., F.R.S., M.D., Sc.D., F.R.C.P. Foulerton Professor of the Royal Society; Late Jodrell Professor of Physiology in University College, London. The chapter on the Sense Organs edited by H. Hartridge, M.A., M.B. (Cantab.) Fourth edition, with 570 illustrations, 10 in colors. Philadelphia: Lea & Febiger, 600 S. Washington Square, 1926. Price, $8.50.

ABT'S PEDIATRICS. By 150 specialists. Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. Set complete in eight octavo volumes totaling 8,000 pages with 1,500 illustrations, and separate Index Volume free. Volume viii contains 1,102 pages with 388 illustrations. Philadelphia and London: W. B. Saunders Company, 1926. Price, cloth, $10 per volume. Sold by subscription.

1925 COLLECTED PAPERS OF THE MAYO CLINIC AND THE MAYO FOUNDATION, Rochester, Minnesota. Octavo of 1,078 pages, with 252 illustrations. Philadelphia and London: W. B. Saunders Company, 1926. Price, cloth, $13 net.

SURGICAL ANATOMY. By John B. Deaver, M.D., ScD., LL.D., F.A.C.S. Surgeon-in-Chief to the Lankenau Hospital, Philadelphia; Emeritus John Rea Barton Professor of Surgery, University of Pennsylvania Second edition. In three volumes thoroughly revised and rearranged. Profusely illustrated with drawings from original dissections made especially for this work. Volume I covers Surgical Anatomy of the Scalp, Cranium, Brain, Face, Mouth, Throat, and Organs of Special Senses. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. Price, $36 for the three volumes, payable $12 after receipt of each volume.

AMERICAN MEDICAL AND SANITARY RELIEF IN THE RUSSIAN FAMINE, 1921-1923. By Henry Beeuwkes, M.D., Medical Director, American Relief Administration, Russian Unit. 101 illustrations and 9 charts. Series 2, No. 45, April, 1926. Chapters on Russian Medical Practice, Epidemics, Deficiency Diseases, and Famine Manifestations. New York City: American Relief Administration, Herbert Hoover, Chairman, 42 Broadway.

PRACTICE OF OBSTETRICS. For students and practitioners of medicine. By J. Clifton Edgar, Emeritus Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. Revised by Norris W. Vaux, Clinical Professor of Obstetrics in the Jefferson Medical College, and in the Jefferson Hospital, Philadelphia. Sixth edition. 779 pages with 684 illustrations, including 5 colored plates and 38 figures printed in colors. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut St. Price, cloth, $8.

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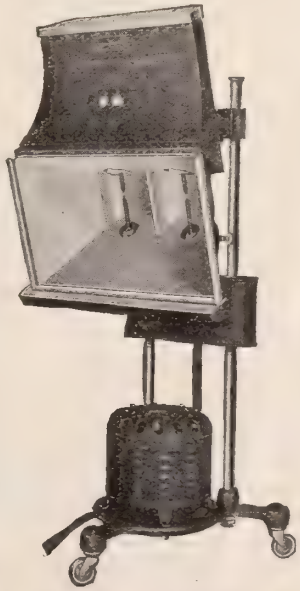
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BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

MODERN MEDICINE. Vol. II. Edited by Sir William Osler. Reëdited by Thomas McCrae, M.D., and Elmer H. Funk, M.D. Philadelphia and New York: Lea & Febiger, 1925. Price, $9.00.

Part I deals with diseases of doubtful or unknown etiology. Rheumatic fever is fully considered. The statement is made that the belief in the salicylates as a specific remedy is not established, and in the author's judgment, large doses of sodium salicylate are often detrimental, especially in cardiac rheumatism, and may introduce new dangers. The effect on arthritis, he agrees, is more encouraging. In the chapter on treatment, emphasis is placed on the importance of beginning treatment as soon as the diagnosis is made. The disease should be attacked too soon rather than too late. The distinction between arsphenamin and neoarsphenamin is explained, and the relative safety of administration and effectiveness is amply discussed. Lead, alcohol, opium, and other poisons are treated, together with food poisoning and diseases caused by animal parasites.

Though many diseases rarely occurring in this country are described in this volume, it is a well-worthwhile addition to Volume I of this system of medicine.

SURGICAL CLINICS OF NORTH AMERICA. Philadelphia Number: December, 1925, and February, 1926. Publisher: W. B. Saunders Co., Philadelphia.

These numbers take in the clinical work done by Philadelphia surgeons during the recent meeting of the American College of Surgeons. The list of contributors to the volumes embraces practically all the surgeons in Philadelphia. All branches of surgery are covered. The men who attended the recent American College of Surgeons meeting will find these two numbers interesting because of the impossibility of attending all clinics during the session. Those men not able to attend the meeting will find the volumes very instructive, and will note the energy put forth by the Philadelphia men who arranged these clinics.

The December number contains an index for the past year.

MODERN MEDICINE. Volume III. Edited by Sir William Osler. Reëdited by Thomas McCrea, M.D., and Elmer H. Funk, M.D. Philadelphia and New York: Lea & Febiger, 1926. Price $9.00.

Volume III is a worthy successor of Volumes I and II. A chapter on metabolism from the point of view of the practitioner, by Dubois, is complete, and will be a great help to the practitioner needing guidance on this subject. It contains many illustrations and tables simplified on this subject. Diabetes is treated and brought up to date with the use of insulin. Gout and obesity are included, and all possible diseases of the digestive tract, with the treatments based on the various authors' experiences are discussed. This volume continues admirably to take its place among other volumes of this standard work.

THE ROCKEFELLER FOUNDATION ANNUAL REPORT, 1924. The Rockefeller Foundation, 61 Broadway, New York. Pages 1 to 447, inclusive.

This book will be valuable as a reference index showing the worldwide activities of the Rockefeller Foundation. It will be of particular value to the medical profession in the suggestive paragraphs from the president's review upon "The Doctor of the Future a Health Counselor" and "Preparation for Protecting the Public Health." The report of the work done to stamp out

(Concluded on page xviii.)

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BOOK REVIEWS

(Concluded from page xvi.)

yellow fever, malaria, hookworm, and dysentery offers hopeful promise that within the next few years these diseases will be trifling instead of tragic in their effects upon the health of the peoples of the whole world.

EMERGENCY SURGERY. The Military Surgery of the World War Adapted to Civil Life. By George de Tarnowsky, M.D., Professor of Clinical Surgery, Loyola University Medical School. Philadelphia and New York: Lea & Febiger, 1926. Price, $7.50.

In this book is combined a comprehensive compilation of what constitutes emergency surgery in the broadest sense, covering as it does industrial accidents and the knowledge gained in the World War. The various chapters are well illustrated whenever necessary, exception being taken to the one showing the methods of performing blood transfusion. The syringe method is so much simpler. Particular attention should be given to the chapter on burns. Burns, especially those of the second and third degree, are poorly handled by the average physician.

This is a very useful book, and it should find a place in the library of those doing industrial surgery.

NURSERY GUIDE for Mothers and Children's Nurses. By Louis W. Sauer, Ph.D., M.D. Senior Attending Pediatrician, Evanston Hospital, Chicago. Second Edition. St. Louis: The C. V. Mosby Company, 1926. Price $2.00.

Any one who had the pleasure of reading the first edition of this little book will not be surprised at the phenomenal demand for it and the necessity for a second edition only three years later, as it is undoubtedly one of the most practical books for mothers and children's nurses in existence. If there is one thing above all others to be said in favor of the book, it is that the author does not try to make physicians out of mothers and nurses; in other words, he not only merely tells them enough for practical purposes, especially in emergencies, but also urges the calling of the family physician if the emergency treatment has failed, or if it be a case where emergency treatment should not even be tried. The dietary directions are simple and practical, and are such as any mother or nurse should be able to carry out intelligently, either with or without medical supervision.

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BRAIN ABSCESS*

WELLS P. EAGLETON, M.D.
NEWARK, N. J.

The treatment of brain abscess to-day is far from satisfactory. The impression given by the textbooks is that about 50 to 80 per cent of these patients recover, but such is not the fact. Otto Beck, of the Neumann Clinic in Vienna, summarized their cases covering eighteen years, and found that of 82 temporosphenoidal-lobe abscesses, 20 had been cured. In the last seven years, 7 patients out of 28 had recovered. In eighteen years they had 41 cases of cerebellar abscess without a single recovery. In other words, in one of the largest clinics in the world, the percentage of recoveries is only a little better than 16 per cent. Niehsmann† collected a large number of case records, and came to the conclusion that about 15 per cent was a fair proportion of recoveries. Why this discrepancy between published and actual cases? Because every cured case of brain abscess is immediately reported, but when the patient dies, the surgeon consoles himself with the thought that he has done the best that could be done.

Recently, however, especially in this country, the results have improved very much. King, of New York, has reported three cases of recovery from otitic brain abscess, and one traumatic case. Cahill, of Boston, has reported several successive recoveries. I have had three successive recoveries from brain abscess, but these were followed by two failures, so there must be something that King and Cahill have discovered or enlarged upon that the rest of us have overlooked.

In the following pages, I wish to discuss the philosophy of the treatment of brain abscess, for a correct understanding of its philosophy should be followed by better surgical results.

What is the most necessary factor in the successful handling of cases of brain abscess? It is that a surgical team and not an individual must do the work. Every general hospital (and especially every ear and eye infirmary) should have a team which will devote itself to cranial surgery, and all cases of intracranial complications—not sinus thrombosis, but brain abscess and meningitis—should be turned over to this team. Such a team should consist of at least three physicians who work well together, and they should have at their disposal a technician who need not be a doctor, but who should be an intelligent young woman, eager to do something well worth while in her day and generation. Her work should consist of the technical parts of all examinations. She should have her own office, and should be surrounded with some dignity, not be at the call and behest of a house surgeon, but made to feel that she is responsible for a very important service that requires a great deal of patience, time, and intelligence.

Why so much paraphernalia?

The most valuable aids in the localization of temporosphenoidal-lobe abscess are the presence of an aphasia and the demonstration of a hemianopic indentation of the visual fields.

If a right-handed man has symptoms of intracranial suppuration with a naming aphasia, it is generally safe to diagnose brain abscess. On operation and exploration of the brain, the abscess generally is located. But it is not always possible to localize the site of the suppuration exactly by this symptom. A typical naming aphasia may be present from a localized meningitis over the naming area—a cortical lesion—or from a subcortical lesion which is deeper in. In the first type of case, only a small amount of fluid from a localized meningitis properly placed over the cortex will produce a typical naming aphasia, but if a knife or a searcher is passed through the dura and into the brain in the area, nothing is disclosed. On the other hand, a small nick in the dura and the evacuation of a small collection of infected fluid may relieve the symptom.

*Read before the Section on Eye, Ear, Nose, and Throat Diseases of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 7, 1925.

†Niehsmann. Th.: "Erfahrungen über den otitischen Hirnabszess." *Arch. f. Ohren-, Nasen-u., Kehlkopf.*, 1920, Vol. 106, p. 83.

I do not know any way of distinguishing between the naming aphasia of the subcortical and cortical lesions in brain abscess. So, while this is a most valuable symptom in the general location of an abscess in the temporosphenoidal lobe of otitic origin, it is not positive.

There is, however, a manifestation that is pathognomonic of subcortical involvement; viz., hemianopic indentations of the visual field—and to demonstrate this is the job of the technician. The fibers of Gratiolet pass from the visual area in the cuneus to the primary visual centers in the corpora quadrigemina, and in this course they pass between the cortex of the temporosphenoidal lobe and the descending horn of the lateral ventricle. If an abscess forms in the temporosphenoidal lobe, especially if it is low down, the abscess is apt to compress these fibers between it and the ventricle, which has become distended by the infection. As a result, there are typical hemianopic indentations of both visual fields.

An intelligent technician, told of the suspected temporosphenoidal abscess, and taking a succession of fields daily, may furnish the deciding localizing factor. The following experience is illustrative:

The patient had had a mastoidectomy, and was thought to be doing well. About six weeks after her return home, she struck the top of her head on a window frame, and immediately began to vomit. The vomiting continued, and the patient also complained of headache. The family physician, on examination, found a papilledema. The lumbar fluid contained a large number of cells, but in spite of these facts, I was unwilling to explore. The technician was instructed to take both fields every day. It took her an hour to obtain the first field—to quiet the child and assure her she was not going to be hurt. On the second day, she showed me the field, saying, "I think here is what you are looking for." In the upper quadrant there were slight indentations. Such hemianopic indentations are transient—they come and go—because a part of the pressure is due to an edema. But on the third day, the technician said "I am sure this is an exact field." (See illustrations.)

On that evidence we operated, although the patient was perfectly conscious, and the diagnosis of brain abscess was far from definite. A small opening was made just above the tentorium. The abscess was low down, necessarily, because when it is low down it involves the upper quadrant of the field. A small drainage tube was inserted, and the child recovered.

If you can say to the technician, as I did, "You saved that child's life," it shows her that she has a very responsible position, and she will take pride in her work. To-day, one of the things that gives that young woman the greatest satisfaction is the fact that this child is living because of her painstaking care and patience. If I were an ophthalmologist, I should want all my fields in glaucoma cases taken by such a technician, because few physicians have time or patience to secure the best results.

I do not believe anybody can localize cerebellar abscess by the Bárány method. Moreover, in my opinion, the contention that the Bárány tests allow of such localization has done great damage to otology. These tests are of value, but it is not usually possible to determine by them alone which part of the brain is abscessed. The pointing reactions have no value except to show that something is wrong.

It should be the job of the technician to conduct all the Bárány tests, the interpretation being left to the surgeon.

In x-ray examination by Dandy's method, with injection of air into the ventricles, I have not had the success that I should, having tried unsuccessfully in three cases. However, I am persuaded that the fault is with me and not with the method. In early cases of abscess, it should enable the surgeon to make a diagnosis in time, when the patient is in good condition. Without doubt, the method promises a great deal in the future handling of these cases. The following case is illustrative of what would have happened, had this method been tried:

A boy was swinging in a hammock and fell, became dizzy, and vomited. Suffering no further disturbance, he went to school. Several days afterwards he began to vomit again. The doctor gave him something for his stomach, but he continued to vomit, and developed a headache. Lumbar puncture revealed a high cell count and increased pressure of the cerebrospinal fluid. The diagnosis was abscess, but where? Finally, an eminent neurologist decided it must be a case of basilar meningitis, and that surgery was contraindicated. A few days later the child had a convulsion and died. At autopsy, it was found that he had an occipital-lobe abscess. If air had been injected into the ventricles, it would undoubtedly have been located.

Occipital-lobe abscess of otitic origin is not very common. Probably the only way it can be diagnosed early is by the application of the Dandy method.

The reason we have had so small a proportion of recoveries from brain abscess appears to me to be that we have had a rather wrong philosophy about this affection, an erroneous understanding of why these patients died. Frequently I have felt the reason was that I had missed some trick, that if I had had proper knowledge I might have saved the patient.

Why do patients succumb in whom the brain abscess has been located by operation? According to the textbooks, many die of a meningitis, which is true to some extent. Some books explain the cause as insufficient drainage, which

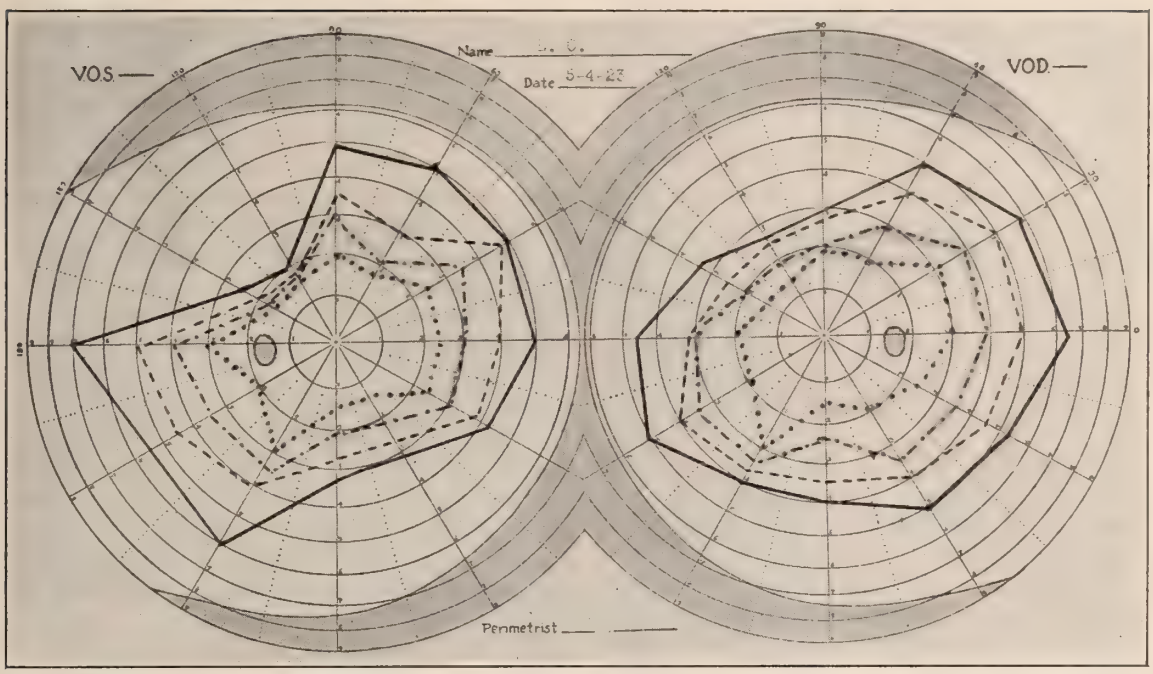


Fig. 1. Visual fields of patient with subcortical abscess, two days before operation. The field for green is represented by dots, that for red by dots and dashes, blue by dashes, and black by a solid line.

is erroneous. During recent years I have begun to appreciate the fact that many die from an encephalitis, which is in reality the cause of the secondary meningitis.

A few years ago a most interesting description was given of a method of draining brain abscess by puncturing the parachnoid. A very excellent method it was, and its inventor had had six recoveries one after another. The following year I witnessed a postmortem on one of his abscess cases. "You see," he said, "there was no meningitis." And there was not, but the child was dead. The abscess had been drained, but on the outside of the brain there was a gangrenous condition of the cortex, due to the surrounding encephalitis. This condition

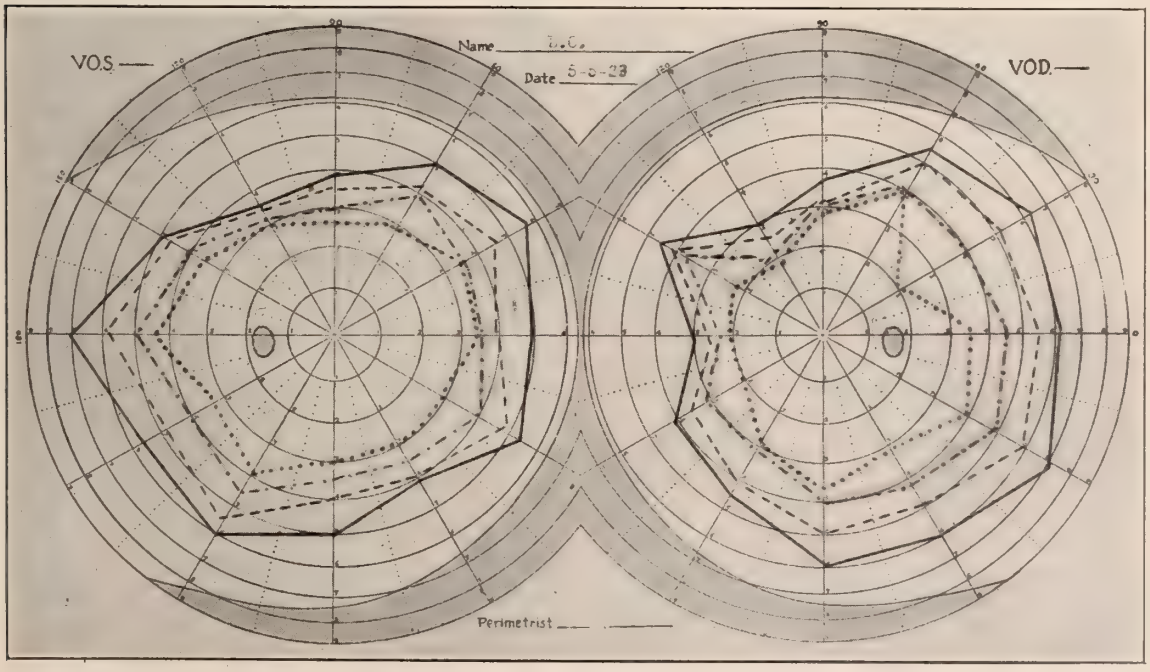


Fig. 2. Visual fields of the same patient one day before operation, showing hemianopic indentations. The field for green is represented by dots, that for red by dots and dashes, blue by dashes, and black by a solid line.

occurs in cases that are not drained properly, but in brain abscess it is not entirely a matter of drainage. There are certain factors not controlled by drainage which must be met in the treatment of the brain that are not present in the treatment of suppuration of other parts.

What is the cause of the encephalitis in brain abscess? If microscopic sections are made of the tissues in the neighborhood of the brain abscess, areas of septic thrombophlebitis will be revealed, all of which cause nutritional death of the cerebral tissue. With simple drainage of the abscess, these areas of encephalitis extend, and a general septic meningitis soon results.

King has made one of the most important contributions to the surgical treatment of brain abscess since MacEwen wrote his book in 1890. He makes a rather large dural opening, and finds the abscess. He then "uncaps it" and allows the brain to herniate outward. In other words, he converts an area of cerebral-tissue suppuration into a traumatic abscess, which then is largely external to the dura.

I used to be very much afraid of *hernia cerebri,* but have come to think that it is better to have a live patient with cerebral hernia (because the hernia will disappear if properly treated) than to have the patient die without a hernia.

Hernia cerebri should be treated chiefly by being let absolutely alone. My last three such cases terminated in recovery, and the patients are well to-day. One of these came from a frontal-lobe abscess, the second from meningitis with hernia of the temporosphenoidal lobe, and the third followed removal of a foreign body from the frontal lobe. This is especially encouraging, as the highest proportion of deaths from brain abscess result from abscess of the frontal lobe.

In considering cerebral hernia, differentiation must be made between sloughing fungating hernia and the nonsloughing form. A patient with a sloughing hernia invariably dies: it sloughs and sloughs, the gangrene becoming more and more extensive, and death results either from meningitis or from exhaustion. A nonsuppurating hernia which comes out gradually presents a different picture. It can be controlled by proper treatment.

My treatment has been to cover the hernia with a great sheet of rubber tissue coated with vaseline. I do not dress the hernia often, sometimes not for two weeks. During the dressing, when this sheet is taken off, the hernia is constantly kept moist with warm salt solution. The rubber sheet is held down by pledgets of cotton wrung out of salt solution and covered with vaseline. Under these conditions, a nonfungating hernia will begin to recede in about a month if it does not become strangulated.

How can it be prevented from becoming strangulated? It has been known for years that hernia does not contain brain tissue. Most of it is edema, associated with a protective reaction of the cerebrospinal-fluid circulatory system, a tremendous amount of fluid accumulating around the base of the brain. This can be demonstrated by lumbar puncture. Consequently, these patients must continually be dehydrated. If they are given magnesium sulphate by rectum, and this is repeated, the hernia which is due to the edema can be controlled. Then gradually, as the parts become accustomed to the reaction, the edema will lessen and the hernia will recede. Later, the skin grows over the defect, and the patient should recover.

The dehydration method of treatment of an induced hernia utilizes the interdependence of the circulatory and the cerebrospinal systems. This dependence has not been appreciated until recently. It can be demonstrated by introduction of a needle into the spine. The fluid in the tube shows a slight up-and-down movement, but pressure over both the jugulars produces an enormous rise of the fluid. If the pressure has been 10 mm. of mercury, it will rise to 40 mm. —400 per cent.

At the last meeting of the American Otological Association, Tobey and Ayres utilized this interdependence in the diagnosis of obliterating thrombus of the lateral sinus. They showed that in the presence of a sinus thrombosis on one side, on lumbar puncture the pressure rises on pressing over the opposite jugular, and from that a diagnosis may be made. Interference with the return circulation from the brain causes a tremendous rise of the pressure of the cerebrospinal fluid.

This interdependence can be demonstrated clinically in another way. When the common carotid is ligated (I have been doing it for meningitis and for cavernous-sinus thrombosis) the manometric pressure of the intra-ocular tension of the eyeball on the affected side will be lowered from the normal of about 22 to 10 or 12 (Schurtz). It stays at that level for some time before it returns. If the circulation has that influence on the ocular tension, how much greater influence must it have on the cerebrospinal-fluid tension!

It is through this interdependence that the pressure in the brain can be controlled by the

administration of magnesium sulphate. The following case is illustrative:

A mastoid operation was performed on a boy by a very good surgeon, but the patient did not do well. This was one of the cases in which I failed to locate the abscess by injection of air into the ventricles. His fields were taken every day, and one day he had an external ocular paralysis, so it seemed quite certain that the case was one of cerebral suppuration. The base was opened, a large quantity of fluid found, and the brain explored in three directions, with negative results. I then hoped it was a case of basilar meningitis, and that by letting this fluid out he might recover. The taking of his fields had been continued, as it seemed probable that the abscess, if present, was in the middle fossa. At last, as he still vomited, in desperation we opened the posterior fossa, and again there was a tremendous amount of fluid. But still he vomited and had headaches. Then dehydration was started, and he was given magnesium sulphate by rectum and by mouth. His cerebrospinal-fluid pressure decreased, and the boy became so much better we thought he was cured. One day the technician pointed out an indentation in a hemianopic field. Two or three days later I explored and evacuated a large abscess.

The point I want to emphasize is that during all this time, the intracranial pressure was kept down by the use of magnesium sulphate.

The "uncapping" of the abscess by King's method, while it prevents the development of encephalitis, also has disadvantages. No one knows what will ultimately happen when cortical tissue is destroyed. I have a little patient who has been well for several years after hernia from brain abscess, but during the last three years she has had epileptic seizures. Consequently, I do not want hernia if it can be prevented, but it is better to have a hernia than to have encephalitis, for the meningitis of encephalitis cannot be averted unless the encephalitis itself is prevented.

Another thing that often happens after evacuation of an abscess is death from a meiningitis of the subdural space. This peculiar infection never occurs under other circumstances. It has long been known that the patients do better if the opening into an area of infection is made through the "stalk" than if it is made through the clean area above, because during the growth of an abscess the subdural space is cut off and closed by adhesions. Such patients are not apt to have meningitis of the subdural space because it has been closed off by the process itself.

How is suppuration in the brain substance (brain abscess) walled off from the meninges? A great deal more is now known about subarachnoid tissue than was known a few years ago. Subarachnoid tissue is very much like the peritoneum, being low-grade tissue. It is the thing that prevents infection from getting into the brain. When infection does penetrate into it, however, the subarachnoid tissue takes care of it. This tissue grows very rapidly, so that the pacchionian bodies form in a few hours.

If the subdural space is cut, in a short time a layer of adhesions forms around it, and through that area evacuation can be performed. For years, MacEwen used a cautery and then evacuated, with wonderful results. Sir Charles Ballance does a decompression the day before evacuation. Dr. King places a layer of gauze, dipped in Dakin's solution, around the edge of the dural flap to form adhesions. His results have been good, although it seems heroic treatment. One of the problems of the future is how to wall off the subarachnoid space, just as the surgeon of today is treating the peritoneum by walling off the peritoneal cavity.

If the time comes when it is possible to say exactly what kind of an abscess is present, we may know whether to drain or not. The idea that an abscess must always be drained is wrong. Many abscesses will clear up if they are drained, but it must be remembered that drainage in itself is a bad thing. Experience during the war proved this. In cases in which a bullet was taken from a man's brain and a little piece of bone was not removed, months afterwards an abscess would form around that bone. In France, brain abscesses are still being seen which are caused by a small piece of bone left at the time of the war. If there is no foreign body, no abscess develops, so we have learned to remove every particle of foreign body from the brain tissue. But in brain abscess, a foreign body is put into the brain in the shape of a drain, and unfortunately it increases the reaction. Cases must be studied and differentiated, and the time will come when drainage will be used in certain cases and uncapping in others, although the latter is probably a very much more serious proposition. The idea should be discarded that drainage itself is always sufficient.

What happens when abscess patients die rather suddenly?

A boy had been struck over the vertex. The surgeon had removed fragments of bone, and the patient had been sent home. All were congratulating themselves on the outcome, when the boy began having cerebral symptoms. I diagnosed the case as abscess, and under ether, explored through the original wound and entered a larger abscess cavity. It was so large that it did not seem possible for him to have it and live. A rubber drainage tube was inserted, and the boy was allowed to come out from under the ether. At that time I was laboring under the delusion that everything must be thoroughly removed from the abscess cavity, so irrigation back and forth a number of times

was begun. The water that flowed back brought a great quantity of dead tissue. When just about to remove the catheter, the boy suddenly died. Autopsy was obtained, but nothing was found to account for his death.

Some time later, when we began to pay more attention to the condition around the pons in any disturbance of cerebral tissue, we understood the probable cause of death. If the pressure of the brain is suddenly altered in displacement of cerebral tissue, hemorrhages into the pons are caused from which the patient succumbs. Some patients do not die immediately, but death eventually ensues because of the sudden alteration. An examination of the reported cases of cerebellar abscess shows that many die suddenly, and for the same reason; viz., displacement of the base from the median line (the abscess crowds everything away from it). If lumbar puncture is then performed or ether is given, punctate hemorrhages into the pons will occur, with sudden death; or Cheyne-Stokes's respiration will develop, with death following in a few days. We have learned, therefore, that in cerebral displacement the intracranial pressure must not be interfered with suddenly.

TECHNIC.—Any one who tries to operate upon a case of brain abscess with hammer and chisel is starting with an almost insurmountable handicap. All the tools used should be adapted to the purpose, and should do the least amount of damage possible. I have four different drills: the de Martel drill, run by hand power; the Hartley Kenyon drill; and Albee drills which are used for certain fine work. The tool must be adapted to the work in order to avoid unnecessary trauma.

In conclusion, certain "don'ts" should be emphasized: (1) Do not give an anesthetic. We do not know how near to death the patient may be from pontine hemorrhage. We used to think we could tell from the rise of the blood pressure, but this is not so. There is not always a rise of blood pressure. (2) Do not use a hammer. (3) Do not use a drain if possible to avoid it. (4) Do not pass any instrument into the brain that does not have a gauge attached. In one instance I was surprised when the x-ray showed how far into a cerebral hernia I had passed a catheter. (5) Keep the patient in bed, and if the dura has been opened, my rule now is that he must stay there at least two months, and three months preferably, no matter how well he is. He must not move around, because walking increases the intracranial circulation. It has been severely upset once, and must not be upset again, so put the patient to bed and keep him there.

15 Lombardy Street.

Symposium on Hypotension*

THE CLINICAL SIGNIFICANCE OF ARTERIAL HYPOTENSION

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The degree of arterial tension depends upon several factors in the circulation of the blood, and is therefore to some extent a measure of the interaction of these factors and of the resulting state of the circulation of the blood. For a long time, hypertension, or excessive blood pressure, has been the subject of investigation and has been recognized as a condition of serious significance. Much has been learned about its causes and the mechanism of its production, though much still remains obscure. Hypotension or diminished blood pressure, on the other hand, has only in recent years engaged much thought, and its importance is far from being in the same class with hypertension. The latter is recognized as a possible functional or nonorganic forerunner of arterial as well as visceral disease, is a frequent cause of cardiac overstrain that may eventually culminate in cardiac failure, and occasions disturbances of cerebral circulation, serious functional derangements, or possibly even cerebral hemorrhage. No such array of unfavorable consequences can be laid to the charge of deficient blood pressure, and at most it is recognized as in a sense a measure of circulatory inefficiency associated with general conditions of more or less gravity. The low pressure of surgical or anaphylactic shock and of infections and certain visceral diseases undoubtedly contributes to the general pathology of these conditions, though it is not the sole immediate cause of the untoward end results. Even in such acute conditions as surgical shock or pneumonia, in which excessive hypotension may be met with, the fatal termination is less demonstrably the direct result of hypotension than is the final outcome of some of the conditions mentioned above the result of excessive arterial pressure.

In the case of moderate grades of hypotension in individuals not supposedly ill, statistical evidence fails to indicate that this condition is one of serious consequence. The tables of Alvarez, Barach and Lee, Levison, and others, and the experience of insurance examiners all indicate that low pressure (as indicated by the figures commonly accepted) is fairly common in young men and women presenting no evidence of physical disease or inferiority, while in those past middle life, insurance statistics actually indicate

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that low blood pressure is "the best criterion we possess that the individual will live beyond his normal expectancy."

Though these statements can be substantiated by adequate evidence, it must not be assumed that hypotension is altogether a negligible condition. Like many other abnormalities, it requires consideration as an indication of some disturbance of balance in the circulation that may or may not have significance. The fault in much recent discussion is that the state of low blood pressure has been held up as an important clinical entity calling for individual treatment. This can hardly be claimed for hypertension, and certainly far less for hypotension. In both cases, what is needed is close study of the pathologic conditions that may have occasioned the altered tension, so that its significance may be estimated in terms of the disordered physiology that has brought it about. We are engaged in the study of a symptom, and must not regard it as a disease.

The maintenance of the average arterial tension results from a number of adjustments operating in varying circumstances with more or less promptness. The loss of fluid from the blood or the absorption of tissue fluids into the vessels, vasomotor constriction or dilation, cardiac acceleration, overaction or dilatation and distention of the liver with accumulation of blood in its abundant vascular channels, these are some, but by no means all of the adjusting mechanisms.

Leaving out of consideration the details of adjustment, we may note that blood pressure is maintained by a balance of three important factors: (1) the power of the left ventricle and its output per beat; (2) the peripheral resistance, especially in the arterioles and capillaries; and (3) the volume of blood. A variety of circumstances may influence one or the other of these unfavorably, and adjustments in the other factor or factors may counterbalance the primary derangement. Increasing knowledge indicates more and more that the cardiac power, formerly so exclusively regarded as the important feature in the general circulation, is of minor importance in matters of blood pressure as compared with the peripheral conditions and the blood mass.

A lowering of blood pressure may be occasioned by a falling off in cardiac power and diminished output of blood with each systole, by relaxation or dilation of the peripheral channels, or by a decrease in the blood mass or in the amount of blood returning to the heart. Observation of pathologic conditions indicates that decreased cardiac power is a factor of minor importance, though cardiac disease may undoubtedly operate in some cases.

Peripheral relaxation is both theoretically and demonstrably the element of greatest significance. The fall of pressure following experimental elimination of vasomotor control and in nervous and infectious diseases causing vasodilation are illustrative. Toxic agents of various sorts have been found to operate in the same way. The experiments of Dale, Laidlaw, and Richards have clearly shown the effect of vasodilation following injections of histamin, and a variety of organ extracts (Roger) act in a similar manner. Doubtless, in some or all of these cases, loss of fluid from the blood to the tissues and reduction of the blood mass is adjuvant to the dilated condition of the arterioles and capillaries.

Reduction of the volume of blood has been demonstrated in conditions of hypotension such as those illustrated by surgical and anaphylactic shock and various toxic states (Canon).

Anoxemia, the condition in which there is a diminution of oxygen supply in the tissues, is attended with lowered blood pressure among other results. The mechanisms concerned in this effect are not wholly clear, but the vascular condition is recognized, and may have wider applications than as yet appear.

Clinically, we find arterial hypotension in a large variety of cases. Leaving out of count the acute low blood pressure of shock, hemorrhage, etc., there are, among other conditions to be considered, the following:

1. *Age.* Blood pressure is lower in childhood and youth than later, though there is some evidence of a slight fall from adolescence to early adult years.

2. *Physique.* Sturdy, muscular types of individuals are less likely to show subnormal pressures than slender, frail, narrow-chested and ptotic types, but exceptions are not unusual in both directions.

3. *Constitutional states.* Cases of status lymphaticus, of depressive nervous diseases, of dementia præcox, and the like frequently present marked lowering of pressure. Addison's disease is a notable example. In all of these the thought is suggested that some lack of an internal secretion (adrenalin, pituitrin) or some fault of endocrine balance may be of importance. It is difficult to escape the conviction that vasoconstricting secretions are of importance in stabilizing blood pressure, though the correlated vasomotor mechanism operating independently through nervous control makes it difficult to prove. The overemphasis placed upon adrenal function in some quarters as the fundamental in

all hypotensive conditions and the denial of all effect on the part of the chromaffin system on the other hand seem equally exaggerated.

4. *Infection.* The low pressure observed in a variety of acute and chronic infections, especially in tuberculosis, has occasioned much experimental study. The early investigations of Romberg and Paessler indicated that the hypotensions of acute infections are largely due to centric vasomotor depression, the result of toxemia, and later studies have indicated that this may occur from the toxemia irrespective of organic lesions in these diseases. In tuberculosis, the degree of hypotension may be commensurate with the amount of pulmonary involvement in many cases, but is not invariably so, and lack of oxygenation as a result of the lung disease can hardly be accepted as the explanation of the hypotension. It would seem more probable that toxic disturbance of vasomotor mechanisms and cardiac weakness are the important factors. Focal infection of certain types is undoubtedly depressive in the sense of circulatory reactions, and may perhaps at times operate to cause low blood pressure; but as a clinical lead there is no very sound basis for regarding it as important in cases of either hypertension or hypotension.

5. *Gastro-intestinal Diseases and Toxemia.* Low blood pressure is not infrequently found in cases of certain gastro-intestinal disorders, notably in visceroptotic individuals. These, it will be observed, fall in the class already spoken of under the heading of *physique*. The constitutional defects, and in particular perhaps the sluggish splanchnic circulation of such persons, may perhaps explain their tendency to low pressure. Experiments with histamin, organ extracts, etc., suggest the possibility that in some intestinal derangements the hypotension may have a toxic basis, but demonstrative proof of this is altogether wanting.

6. *Anemia* is frequently attended with lowering of blood pressure, and suggests explanations of various sorts. Myocardial disease, vascular relaxation, anoxemia, and reduced blood volume may be factors, but in given cases the actual cause of the hypotension is difficult to find.

7. *Cardiac weakness,* as stated above, is less important than would at first appear probable, but that it is an element in some cases cannot be denied.

This tabulation of some of the clinical causes of hypotension must be accepted as only a brief recital of certain important conditions and not as comprehensive. A long list of additional diseases might be added, and the practical conclusion might be drawn that low blood pressure is one of many symptoms of disease that has ordinarily no definite significance.

There remains to be considered a class of cases designated by writers as *essential hypotension,* in which low blood pressure associated with vague ill health, but no definitely demonstrable disease, characterize the clinical features. Such cases are common enough in constitutionally inferior individuals, but are occasionally met with in persons of more robust physique. They make difficult problems for medical diagnosis, and may occasion serious concern; but my impression is very strong that in the last analysis the great majority are cases in which the physician's anxieties are unjustified. Any wide variation from normal conditions calls for thoughtful investigation, but I am inclined to believe that, in a practical sense, essential hypotension and hypotension generally as an important clinical condition are residues of medical war psychology.

Perhaps it might be well to consider briefly what constitutes low blood pressure. The figures obtained by investigators who have tabulated considerable series of cases vary somewhat, and it has been held that systolic pressures below 110, 100, or 90 are significant. Every one familiar with blood pressure determinations is aware of the fact that rapid changes in an upward or downward direction, perhaps especially in an upward, may occur while the patient is under study. An exact figure for the lowest normal limits is, therefore, difficult to establish. Unless the habitually observed pressure is considerably below normal figures, it is hardly judicious to consider them. Systolic pressures below 90 would certainly appear abnormal, and lower figures would suggest serious investigation. It must not be forgotten that a low systolic pressure (say 100) with a high diastolic pressure (90 or more) indicates high rather than low mean pressure.

CONCLUSIONS

Low blood pressure results from a disturbance of balance in the important factors that maintain average pressure—the cardiac power, the peripheral resistance, and the volume of blood. Hypotension is not *per se* a serious condition, as indicated by its frequency in presumably healthy young persons and by the fact that insurance statistics in later years show a greater life expectancy on the part of low-pressure individuals than others. In serious diseases (shock, etc.), hypotension may be a measure of the seriousness of the condition causing it, but is not like hypertension—a direct threat to life. Clinically, hypotension is a symptom of various

sorts of disease. Essential hypotension, while a fact to be studied, is less important than recent expositions would suggest.

DEFICIENT OXYGENATION IN ARTERIAL HYPOTENSION

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About two years ago, I thought it would be of interest to summarize the observations on arterial hypotension gathered during the preceding twenty years. Out of the entire material at my disposal, about five hundred cases were correlated. These, for the greater part, segregated themselves readily into such groups as hypotension in persons of normal health, hypotension in the acute infectious diseases, in the chronic infections, in pulmonary tuberculosis, in other respiratory affections, in the anemias, and in endocrine cases. Along with these, there was a special group best designated as essential hypotension.

There are, unfortunately, no physiological or pathological criteria by which we may say, "Here hypotension begins and here it ends." The level 110 mm. Hg pressure is a purely arbitrary one, but it has served for the purpose of comparison among the various observers, and is probably as good as any other.

Reviewing these observations, we find that out of each thousand persons in apparent good health there will be about 35 (or 3.5%) with arterial hypotension. Correlating 150 cases gathered out of such normal groups and scrutinizing them carefully, it was found that these supposed normals in reality were not full normals: they were physical substandards. They were of lighter build, they were slender, and they had smaller than normal chest capacity. Occasionally there were some who were obese, but they too were not unlike the others in build, except that the skeletal features were hidden by pads of fat which may have given them the appearance of the hypersthenic type of individual. It is characteristic of individuals with arterial hypotension that they cannot endure arduous or sustained physical effort.

The second group is made up of cases of hypotension in the acute infectious diseases. Hypotension is most marked in influenza, reaching its lowest level on the third day of the disease. In a group of 50 cases during the great epidemic, readings as low as 72 mm. Hg systolic, and 48 mm. Hg diastolic pressure were made. In typhoid fever, the lowest systolic pressure occurs during the fourth week of the disease. In a series of 81 cases, the average systolic pressure during the sixth week of the disease, was 90 mm. Hg. It is interesting to note that with the onset of an acute cold there is a fall in blood pressure. When the patient has reached that stage in which he feels chilly and has cold hands and feet, the arterial pressure has fallen to a level considerably below normal for that individual.

The third group included certain chronic diseases. In chronic diseases, hypotension is characteristic of pulmonary tuberculosis. It is also seen in long-standing cases of focal infection, and in certain diseases of the upper and lower respiratory tract in which there is chronic inflammation or obstruction. Hypotension is a characteristic finding in nearly all cases of nasal obstruction.

Along with these pathologic conditions there is still another group of patients in whom a specific diagnosis is not so easily made. They present a bizarre symptom complex. One thing, however, which they all seem to have in common is arterial hypotension. Because of this, the condition has been labeled, rightly or wrongly, essential hypotension. Taken as a group, they are distinctly undersized and they are nonathletic. Whether they are short or tall, slender or obese, they belong distinctly to the hyposthenic and asthenic type. They have a smaller than normal chest capacity, narrowing of the nasal cavity, poor musculature of the thorax, and they have a marked tendency to muscular relaxation. Frequently they have drooping shoulders and they are shallow breathers. At times we note irregular breathing. Sir James Mackenzie has described a type of individual similar to these, which he stigmatized as having *x* disease, but made no comment upon their arterial pressure. It may be that the irregular breathing of these individuals is similar to the irregular breathing of newcomers to a high altitude, which is due to oxygen want and is promptly relieved by oxygen inhalation. These are some of the characteristics of the patients with essential hypotension. They have various and numerous subjective complaints. Frequently they have enteroptosis.

The important question in the mind of the physician is, "What is the significance, and what is the cause of this arterial hypotension?" Up to the present, neither the physiologist nor the pathologist has been able to answer this question satisfactorily. Perhaps something may be learned from clinical observations if we succeed in correlating and interpreting our diversified material.

On reviewing my observations as a whole, it appears that there is, after all, one factor com-

mon to all the disease states in which arterial hypotension is found.

The so-called normals with hypotension have a smaller chest capacity, which in turn must lead to a relative degree of respiratory deficit. It is also true that there is a respiratory deficit in typhoid fever and in influenza. In both these diseases, cyanosis is more or less marked. It is also true that there is a respiratory deficit in pulmonary tuberculosis and in other chronic diseases of the respiratory tract, and in obstructions along the respiratory tract. In severe anemia there is an insufficiency of the oxygen carriers of the blood. In hypothyroidism there is likewise a suboxidation. In essential hypotension, the inefficiency of the respiratory organ is evidenced by the narrow nostrils, nasal obstructions, narrow chests, poor musculature of the thorax, and irregular breathing. All these bespeak an organic inferiority of the respiratory apparatus. White and McGuire recently reported 115 "below-par" individuals corresponding to the type included in our group. The vital capacity in this group was 14.6 per cent below normal (*Arch. Int. Med.*, Sept., 1925).

It is significant that wherever arterial hypotension is found, factors are also found which lead to a respiratory deficit, and therefore to an oxygen deficit.

The human organism is so adaptable that it tolerates reduced oxygen supply comparatively well—better than machines and chemical substances which are simpler than our own. But it is hardly to be expected that a lessened oxygen availability would not manifest itself in one way or another. If atmospheric oxygen were reduced by half, as pointed out by Lovenhart, animal life, for a time, would not be interfered with noticeably; but locomotives could not run, illuminating gas would not burn, and many highly inflammable substances would be as inert as water. By pulling out the choke which leads to a gasoline engine, the oxygen supply may be reduced to such a degree that the explosive power within the engine is rendered useless. Likewise, when the oxygen which supplies the heart and arterial system is reduced as is done in the closed breathing system, there is a rapid fall in blood pressure. This is an everyday experiment in the physiological laboratory. Reduced oxygen goes hand in hand with reduced systolic power of the heart.

Whether arterial hypotension is brought about directly as a result of oxygen want upon the muscle fibers of the cardiovascular system, or whether it occurs through the agency of the nervous system is a question that may be left at the threshold of the physiological laboratory. The clinical observations upon which the present viewpoint is based, clearly indicate the nature of the underlying cause. Arterial hypotension is secondary to deficient respiration and oxygenation in the human organism.

THE TREATMENT OF LOW BLOOD PRESSURE*

With Special Reference to the Use of Ephedrin

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In the treatment of low blood pressure of long duration, rest, exercises, special diets, changes of climate, drugs, and endocrine products have been employed with varying but frequently unsatisfactory results. No single procedure has been effective in any large number of cases. The discovery of epinephrin gave great hope, but it was found to be effective only when administered intravenously, and then the action was too evanescent to be of practical value. Ephedrin, a drug recently introduced from China, which has a physiologic action similar to epinephrin but of much greater duration, and which can be given effectively by mouth, would, therefore, seem to offer greater promise.

Before considering this drug or the persistent type of hypotension that is chiefly under discussion, certain clinical conditions showing low pressure should be mentioned in which the etiology is better understood and for which, as a consequence, more specific therapeutic procedures are available. Among these are the acute manifestations of low blood pressure such as are seen in syncope, in hemorrhage, and in shock, and those that, for convenience, may be described as subacute types, such as occur in connection with various infections, particularly the acute infectious fevers, in certain diseases of the heart, in endocrine disturbances, and in conditions of bodily and mental exhaustion. These two groups may be contrasted with chronic hypotension, which is very persistent, often associated with some congenital defect or some fault in bodily development, and for which the treatment, as well as the etiology, is still on uncertain grounds.

ACUTE HYPOTENSION

The acute-hypotension group is separated from the others because of a sudden and severe onset, a comparatively brief duration, and the necessity for prompt treatment. The remedies must be immediately effective, and a prolonged action is

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usually not necessary. This type alone lends itself to experiment, and consequently our knowledge of its nature is more complete.

(a) Syncope, or a temporary loss of consciousness incident usually to a severe emotional disturbance, is the least serious of these, and is due to an anemia of the brain. This anemia results from vasomotor relaxation more often than from primary ineffectiveness of heart action, as is shown by the frequency of its occurrence in vasomotor cases and its rarity in heart disease. The heart sounds are feeble in this condition, it is true, but this is probably secondary to the vasomotor relaxation, and due to the consequent incomplete filling of the ventricles. The indication for treatment is clearly to increase the supply of blood to the brain. This is accomplished by gravity as the patient falls, and it may be aided by raising the feet or compressing the abdomen. If drugs are needed, which is usually not the case, epinephrin is the ideal one, since it contracts the peripheral arterioles, except those of the brain and myocardium, and so tends to supply the blood where it is most needed. A dash of cold water in the face or the inhalation of aromatic ammonia reflexly stimulates the vasomotor center, and so may be an additional aid in the reëstablishment of normal blood pressure. Once resupplied with blood, the brain cells again function, and consciousness returns.

(b) Following acute hemorrhage, the blood pressure falls for the simple reason that there is not enough fluid left in the heart and blood vessels to fill that system completely. In some cases there is the added factor of shock, which will be referred to in the following paragraphs. If the hemorrhage is moderate, the reduced pressure is readily restored to normal as a result, in the first place, of a constriction of the arterioles, and probably also of the capillaries and venules (thus reducing the capacity of the circulatory apparatus to correspond with the reduced volume of blood), and in the second place, of the passage of tissue fluids into the blood stream (thus bringing the blood volume back to normal). In such cases it is necessary only to supply plenty of water to the patient orally, per rectum, or subcutaneously.

If the hemorrhage is more marked, these adjustments may not be sufficient to compensate completely for the lost blood, and then the introduction of fluid into the blood stream is indicated. Such injection not only restores the blood pressure, but also is an important prophylactic measure against shock. If shock has already developed or the blood loss has been very great, the fluid introduced should be blood itself; otherwise saline injections may be sufficient. It is always preferable, however, to do a blood transfusion in any severe hemorrhage, since, in addition to restoring the blood volume, it supplies the oxygen-carrying elements which have been lost and hastens the recovery of the patient. It is, of course, to be understood that, first of all, further loss of blood must be prevented, precautions against loss of heat from the body must be taken, and the patient must be kept in the horizontal position. Drugs for the hypotension itself are usually not necessary.

(c) Shock, or what Cannon[1] more properly calls "exemia," is constantly associated with hypotension, and occurs under various conditions: from hemorrhage, following anesthesia, in certain toxic conditions such as anaphylaxis, from great nervous strain ("shell shock") and from extensive bodily injuries (traumatic or surgical shock).

Many theories have been advanced in explanation of shock and of its low blood pressure: exhaustion of the vasomotor center, fat embolism, hyperactivity or exhaustion of the adrenal glands, acidosis, acapnia, and traumatic toxemia. The latter hypothesis, based chiefly on the work of Dale, Laidlaw, and Richards[2], assumes that shock is due to a toxemia, resulting from histamin or histaminlike substances produced by activity or injury of body tissues. These investigators showed experimentally that histamin caused capillary dilatation and stagnation of blood, with a reduction in the effective blood volume, and an actual concentration of the blood as the result of transudation of plasma through the capillary endothelium. The arterioles and veins remained contracted as the capillaries dilated and the blood pressure fell. Thus were conditions produced which are identical with those observed in experimental and clinical shock: low venous and arterial pressure, diminished blood volume, normal or increased erythrocyte count and hemoglobin percentage, and cold skin with cyanosis. Furthermore, such other clinical findings as the rapid thready pulse, the leukocytosis, the increased blood nitrogen, the reduced blood alkali, the reduced metabolism, and the various nervous phenomena can be reconciled with this theory. Thus it seems most plausible, and has been accepted by the leading physiologists.

If we accept this theory, then, the immediate cause of the hypotension in shock is a decrease in the effective blood volume. The heart is not primarily affected, but acts ineffectively merely because the blood cannot get to it by way of the great veins. Neither is the vasomotor center impaired. The essential treatment for the low

pressure of shock, and for shock itself, therefore, resolves itself into a matter of increasing blood volume. Once the blood volume and pressure are restored, the organism is put into a favorable condition for combating the underlying toxemia.

To bring about this increase in blood volume, transfusions are indicated. The oral administration of water is usually impossible on account of gastric disturbance. Rectal administration is sometimes helpful, but it has been shown that subcutaneous injections are of comparatively little value. Even the intravenous administration of saline solutions is of only temporary benefit, for the added fluid is soon lost through the distended capillary walls. Colloid solutions, such as gumsalt and blood, cause a more prolonged rise in pressure. Once the capillary endothelium is badly damaged, even introduced blood will readily be lost with the development of such serious conditions as pulmonary edema. In the earlier stages, however, when combined with measures for preventing further hemorrhage, if such has occurred, for preventing heat loss from the body, and for allaying pain and restlessness, this is a procedure of great value, and its significance lies chiefly in its ability to elevate the blood pressure.

Drugs have been used less and less in this condition. While epinephrin has been advocated, and does increase the pressure temporarily, it does so chiefly by further increasing constriction of the arterioles and so damming the blood back into the arterial system. This obviously does not increase the volume flow through the capillaries. Because of this fact and its evanescent action, it has largely been abandoned in recent years. Pituitrin, while having a more lasting effect, acts chiefly on the arterial tips in the same way as epinephrin, and so has no rational basis as a therapeutic measure. Camphorated oil as a cardiac stimulant has been much used, and perhaps has more justification, since its action is on the heart and it does not further contract the arterioles. While the evidence suggests that the heart is not abnormal and only requires more blood to function normally, it may be that a forced action on its part tends to wash out the static blood in the capillaries. This reasoning has been applied to ephedrin by Chen, who found, under experimental conditions of shock in animals, that the pressure was decidedly increased by its use.

While ephedrin, according to Chen and Schmidt[3], also causes vasomotor stimulation, Chen's[4] later work suggests that the blood-pressure increase is mainly due to a cardiac effect, there occurring an increase in both cardiac volume and contraction. In experimental conditions of shock produced by the administration of histamin or peptone, in anaphylaxis and surgical trauma, and in hemorrhage, he clearly demonstrated this blood-pressure increase and it persisted for several hours. It failed to act when the heart was impaired, respiration had ceased, or hemorrhage had exceeded 25 per cent of the total volume. I[5] have reported a case of terminal acute peritonitis, in a state of shock, in which such a result was obtained, the systolic pressure rising from 0 to 65 mm. Hg after the intravenous injection of 100 mg. of ephedrin. Furthermore, we have some clinical evidence of the effects of ephedrin on cardiac action. By observing the hearts of patients under the fluoroscope before and after ephedrin administration, E. P. Pendergrass and I[5] noted a decided increase in the amplitude of cardiac contraction. At the same time, the patients often complained of a throbbing in the chest, and systolic heart murmurs were produced. Thus there is experimental and clinical evidence for the belief that ephedrin may be of value in conditions of shock, and that it acts by stimulating the heart. Such cardiac stimulation raises the blood pressure and improves the circulation probably by dislodging the capillary stasis of blood. This drug may, therefore, prove to be a valuable addition to transfusion in the treatment of shock.

Subacute Hypotension

The subacute hypotensions of this classification include loosely all those that are associated with the occurrence of less acute bodily disturbances, and might more properly be called secondary or symptomatic. While from a larger point of view all low pressures are symptomatic, these may be distinguished from the acute type by the fact that the low pressure is not a vital part of the clinical picture and from the chronic or essential type by the fact that the primary disease or bodily disturbance is usually appreciated. This primary condition may be an acute infection, like typhoid fever, scarlet fever, pneumonia or diphtheria; a chronic infection, like syphilis or tuberculosis; a focal infection; a cardiac or endocrine disturbance; or pure physical or nervous exhaustion.

In many of these cases, the basic physiologic abnormality is not well understood, but whether it is or is not, effective treatment of the primary disease will usually restore the pressure, and no special measures for the hypotension itself are demanded. For instance, the low pressure of chronic anemia is known to be due chiefly to a reduced viscosity of the blood. The indication

is, therefore, to increase the blood viscosity; and this is accomplished by overcoming the anemia. Thus, from the practical viewpoint, it is the primary disease that must be treated. So, in cardiac disease, be it acute myocardial failure, pericardial effusion, some of the arhythmias, or what not, the indication is to clear up the primary heart disease or functional disturbance. When focal infection, although it cannot always be proved to be causative, is discovered in a patient with low pressure, the latter should serve as a reason for the complete eradication of that focus. For the low pressure of the acute and chronic infections of a more general nature, the proper measures are simply those commonly recommended for the treatment of the infection itself. Even when a reasonable suspicion exists as to an endocrine dysfunction, procedures designed to restore that function to normal may be given a trial.

Many of these symptomatic hypotensions are due to physical and mental strain or to insufficient nutrition. Hoxie[6] refers to cases of this sort that occurred among our soldiers in the recent war after intensive drives, and points out that they cleared up as rest and a sufficient food supply were secured. Wolferth[7] also has emphasized this type of hypotension, and has referred to several cases. Yet it is believed that this cause for hypotension has not been given the attention that it deserves. This is especially unfortunate, since appreciation of it gives the key to treatment and alleviation of the diverse symptoms which are so often complained of. The following single case may be cited as a not uncommon one seen in hospital practice:

A woman, aged 38, came to the University Hospital with a history of various digestive complaints since having had an attack of typhoid fever 23 years previously. For 6 years preceding her admission, she had had frequent attacks of upper abdominal pain with vomiting, and had restricted her food more and more until she was finally on a very insufficient and practically a pure milk diet. Examination showed considerable emaciation, and she weighed only 72 pounds. All her teeth had been extracted. Her blood pressure was 80/60. All laboratory examinations were negative, except for slight gastric hyperacidity. On an adequate diet with rest in bed during a month in the hospital, her weight increased to 80 pounds and her blood pressure rose to 100/65. Her gastric symptoms disappeared, and she left feeling quite well.

Chronic Hypotension

Finally, there are the persistent low-blood-pressure or essential-hypotension cases in which no exact physiologic defect can be discovered and which are associated with no recognizable disease. Some writers suspect an endocrine basis for all of them, others an obscure infection, and still others certain little understood disturbances in the chemical reactions of the organism. Certainly, many of these cases are associated with faults in bodily development, as is emphasized by the common descriptions given, and it seems reasonable to believe that in many the primary variations from normal are of a congenital nature. The fact probably is that such hypotension plays a minor part in many pictures of fundamental physical and nervous abnormality.

The treatment is necessarily symptomatic, and usually not very effective, yet it is important to remember that even a slight increase in the blood pressure often produces an unsuspected improvement in these patients' general state of health and in their mental viewpoint.

The management should be along the general lines suggested in the foregoing paragraphs. Although no faults may be demonstrable in the heart, in the vasomotor apparatus, or in the effective blood volume, these basic physiologic factors must be kept in mind, and the treatment directed accordingly. Infection must be looked for and eradicated. Anemia must be overcome. Glandular disturbances justly may be suspected, and the exhibition of endocrine products may be experimented with under suitably controlled conditions. Undernutrition especially should be corrected.

Exercises have proved helpful, but they should never be engaged in to the point of fatigue, and outdoor sports are to be preferred. A reasonable amount of rest, with bodily and mental relaxation, is essential. The custom is to advise a stimulating diet, making use especially of such things as meat and meat extractives. Perhaps most important of all, in regard to the diet, is the provision that it be sufficient and easily digestible. Water should be taken freely, for perhaps in some of the cases, as is suggested by their cold, moist, and cyanosed extremities, there is present an element of mild shock with capillary stagnation of the blood and an ineffective blood volume.

Drugs are often used, but in general they are justified only when there is some indication aside from the low pressure itself. Goodman[8] especially recommends nux vomica in ascending doses, even giving as much as 75 minims of the tincture three times a day in some instances.

It must be remembered that none of these measures is known to be specific. They are helpful in the main merely because they aid the patient's resistance to infection, improve his general nutrition, and produce an environment to which he can adjust himself.

Ephedrin has been given a trial in a number of such cases at the University Hospital, and in some of them it has produced a temporary elevation of pressure which has lasted from three to six hours after each dose. The response in pressure increase has not been so striking as in certain other types of cases, and sometimes a dose of 50 mg. has had no effect whatever on the hypotension. Yet most of the patients have expressed themselves as feeling stronger and more energetic while under its influence. This drug, therefore, would seem to have at least a claim to thorough trial in a large series of essential hypotension cases. It has practical advantages over many other remedies that have been suggested in that it can be administered by mouth and in that it is a very stable preparation. While in excessive dose or when given too frequently it does produce palpitations and some gastric disturbance, this has not occurred with 50-mg. doses two or three times a day, and such doses are usually effective in elevating pressure. Though no permanent blood-pressure increase has been demonstrated from its use, a larger experience may show that even an intermittent elevation of pressure will cause some permanent clinical improvement.

CONCLUSIONS

1. Low-blood-pressure cases are classified as acute, subacute, and chronic.

2. For the acute group, the etiology is fairly well understood, and there are specific indications for treatment.

3. For the subacute type, the treatment is in the main that of the underlying disease or bodily disturbance.

4. For the chronic or persistent group, no uniform method of treatment is available, though the indications are clear for keeping the body in the best possible condition, especially for improving the general nutrition and the tone of the nervous system.

5. For all of these types of low blood pressure, ephedrin may be used as a temporary measure. In some it will aid in overcoming the essential disturbance; as in shock, by promoting conditions favorable to the elimination or destruction of the causative intoxication. For others it will merely increase the blood pressure temporarily by its stimulating action on the heart, but even by so doing there is reason to believe that it may bring about changes favorable to the alleviation of the patient's symptoms and the improvement of his general state of health.

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Symposium on the Care of Children with Heart Disease*

THE PREVENTION OF HEART DISEASE IN CHILDREN

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Every acute infection must be considered as a potential menace to the integrity of the heart. At the present time, acute rheumatic fever and its allied conditions, growing pains, and chorea, are being kept constantly before the profession as the etiologic factor in heart disease. This is being done to such an extent that there is a tendency to forget the many other conditions which threaten the heart.

A list of the organisms that are known to attack the heart would include practically all of the pathogenic bacteria. Thayer[1] recently has given the statistics on the types of organisms causing endocarditis, in which the diagnosis was confirmed at autopsy. In a review of all such cases at the Johns Hopkins Hospital since its foundation, he found 114 cases due to Streptococci, 30 to gonococci, 28 to pneumococci, 26 to Bacillus aureus, 8 to Bacillus influenzæ, 4 to Bacillus albus and one each to Bacillus anthracis and Staphylococci. He found that the cases due to the Bacillus aureus were traceable directly to conditions such as osteomyelitis, carbuncles, or infected wounds. To the above list of organisms we may add Bacillus tuberculosis and Bacillus typhosus.

The recent literature does not indicate that uncomplicated scarlet fever or diphtheria cause any permanent or progressive cardiac lesion. Ross Jamieson[2] has reviewed 670 cases of scarlet fever, and failed to find any evidence to show the presence of any permanent damage to the heart resulting from scarlet fever. None of the

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patients showed any signs of active endocarditis. The length of time elapsing between the original attack and his observations was not noted. Hecht[3] found that after a lapse of nine to ten years subsequent to an attack of scarlet fever, 66 per cent of his cases possessed a clinically sound heart. Contrast with this 140 cases examined by Osler 2 years after an attack of chorea, in which 48.6 per cent had clinically sound hearts. The same writer, Hecht, found that only 22.3 per cent of his diphtheria patients had clinically sound hearts after an interval of from fifteen to sixteen years.

This latter finding is somewhat at variance with the writers, one of whom, in association with Dr. Stroud, has followed for several years all cases of diphtheria treated at the Philadelphia Hospital for Contagious Diseases that showed any signs of cardiac involvement. While a definite and detailed statistical study has not yet been made, it is our impression that very little, if any, permanent damage resulted. This may be due to the method of treatment, as all of our cases with a tachycardia or irregularity were kept at rest until such abnormal findings had disappeared. But the fact that some cases do show cardiac changes after these infections, transient though they may be, is a warning that all should be treated as though the heart invariably would be attacked.

The so-called cryptogenic, or hidden, infections undoubtedly play an important rôle as etiologic factors in heart disease. The evidence points toward the tonsils as one of the most important of these factors. Particularly is this true of acute rheumatic fever. O. Holsti[4] found that in his series of cases of acute rheumatic fever, 76.8 per cent gave a history of tonsillitis. A recent attack had occurred in 71.4 per cent.

Lately the literature has been containing more frequent reports of exophthalmic goiter in childhood. Heiman[5] reviewed 1,512 cases at the Mayo Clinic, and found 5 patients under ten years of age. Klein[6] found 184 patients under 15 years in a series of 3,477 cases. Heiman reached the conclusion that heredity played an important part in a large number of cases. That is, the children of neuropathic families were more susceptible than those of normal parentage. In this connection, Burton E. Hamilton[7] makes an interesting statement. He found that in 372 definitely toxic cases, 9 per cent had a past medical history of acute rheumatic fever, chorea, or clear signs of mitral stenosis, justifying a diagnosis of rheumatic heart disease. He estimates that only 2 per cent of the communities from which these cases were drawn have a similar rheumatic disease. Whether or not this has any significance is unknown, but it is suggestive.

Finally, as to the familial tendency toward heart disease. At present the evidence points to such a tendency, although in a recent study by Faulkner and White,[8] not one of 97 children of 29 parents having inactive rheumatic heart disease displayed any evidence of rheumatic infection.

As mentioned previously, acute rheumatic fever and its allied conditions, growing pains and chorea, are now generally conceded to be the most important causative factors in the production of heart disease in children. A tremendous amount of work has been done upon them in an attempt to learn more concerning their nature. The pathologic findings during and after acute rheumatic fever are characteristic. Unfortunately, too many of them are available only after death. The recent work of Homer F. Swift[9] on the heart in this disease shows, postmortem, the presence of breadlike excrescences on the valve margins and inflammatory areas under the intact endothelium, suggesting a valvulitis. MacCallum[10] has recently called attention to the marked thickening of the wall of the left auricle, found above the base of the more posterior leaflet of the mitral valve. This thickening is produced by new tissue formation, and to a lesser degree by a deposit of fibrin on the endocardial surface. Microscopically, he found changes in the auricular wall, in the tissues about the auriculoventricular junction, in the enclosed coronary arteries, and in the roots of the valves. All these resemble the changes found in the left ventricle, but are more extensive. Aschoff bodies are found in the myocardium close to the small blood vessels. There is injury to these vessels themselves, both through compression by the Aschoff bodies and by injury to their walls, with resultant thrombus formation. Swift found that the myocardium or conducting mechanism was affected in 95 per cent of his cases. The pathologic findings just outlined furnish the explanation. Similar lesions were found in the heart in cases of chorea minor. The importance of the relationship between these pathologic findings and the early treatment of rheumatic fever will be referred to later.

In this connection, it is well to make mention of the subcutaneous nodules found in acute rheumatic fever. Very often they may be seen before there is any other indication of rheumatic infection. It is well known that they may persist for months after the subsidence of articular manifestations. As these bodies and the Aschoff bodies are similar in structure, it is reasonable to sup-

pose that the disappearance of the heart nodules would be equally protracted. Indeed, this has been proved at autopsy.

The primary cause of acute rheumatic fever is a moot question. That it is an infection is generally agreed, but the evidence regarding the causative organism is not conclusive. The same is true of chorea, although in 1923 Rosenow[11] reported that he had produced, in animals, lesions of the central nervous system and the heart valves similar to those found in humans. He used a streptococcus having peculiar neuropathic, immunologic, and other properties.

That acute rheumatic fever early invades the myocardium has been conclusively proved by the electrocardiograph. Swift and Cohen[12] enumerate the following three changes in the tracings encountered during the course of the disease: (1) Increased duration of atrioventricular conduction time, but not to the degree of heart block. (2) Alteration in the ventricular complex, either in the Q-R-S group, or the R-T interval, or in T. (3) Arhythmia.

The importance of acute rheumatic fever and of its relation to heart disease is brought out forcibly by Langmeade, who, in a study at the London County Council Schools, found more rheumatic fever than tuberculosis. In 1920 the statistics of the Invalid Children's Aid Association showed 996 cases of rheumatic heart disease and chorea, and 1,401 cases of all types of tuberculosis.

The main etiologic factors concerned in the production of heart disease in children have been outlined. The pathologic findings of the principal etiologic disease group have been touched upon. With a thorough understanding of these two things, the method of preventing permanent injury to the heart may almost be summed up in one word, *rest*.

The responsibility for the lack of a strict enforcement of this one thing rests both upon the parents and upon the physician. Too often the latter, against his own better judgment, is influenced by the entreaties of the parents to let the child be out of bed almost before the local manifestations of the disease have disappeared. This is done in spite of the fact that there is persisting a slight tachycardia and fever, and undoubted changes in the heart itself that would remain for months even under the most strict enforcement of rest.

It seems that greater efforts should be made by physicians to educate the mass of people in the dangers of rheumatic fever and chorea, and to teach them how such dangers may be avoided. Much of this type of work is being done by the heart associations in many localities, but each one of us should assume a portion of the responsibility.

However, a large proportion of the cases seen do not have the proper facilities for carrying on an adequate régime of rest. It is impossible for any large and active hospital to keep such cases in its wards a sufficient length of time. Again, acute rheumatic fever is most prevalent among the less well-to-do families. If this is the case, it is unreasonable to suppose that sufficient rest may be enforced, when perhaps both parents are working or are too ignorant to appreciate the necessity of rest.

The solution is obvious: have more institutions where such patients may be placed for proper convalescent care. At present, such institutions are far too few. Much has been done along this line for the treatment of tuberculosis, and if the people can be brought to realize that acute rheumatic fever is just as dangerous in its consequences, their response to efforts for its prevention will be as wholehearted. Nor should the supervision of the convalescent children stop with their discharge from the convalescent homes. There should be a close coöperation between them and the medical examiners and teachers of the schools, the end to be achieved being the prevention of a subsequent infection, and also the prevention of any neurotic tendency.

Unquestionably, the tonsils act as an important portal of entrance for rheumatic fever. It should not be assumed, however, that all children should have a tonsillectomy performed. Without doubt, all diseased tonsils should be removed. There is one other class of children who should have their tonsils removed, and these are the children who present the so-called rheumatic diathesis, a class very concisely described recently by Dr. Gittings. The children are more or less undernourished and anemic. They are high-strung, restless, and very excitable. They are subject to infections of the upper respiratory tract and to periods of alternating diarrhea and constipation. While not all children of this type become cardiac cases, a large proportion of them do. Particularly is this so if the child has been afflicted with growing pains or other vague muscular aches.

In this connection it is interesting to note that T. B. Shaw,[13] in January, 1925, published an article on the incidence of acute rheumatic fever in the British Navy. He found that infections of the upper respiratory tract, teeth, gums, and pharynx were almost as important etiologic factors as tonsillitis. His percentages in 1915 were 6.3 per cent of cases of rheumatic fever per

1,000, with a history of tonsillitis and sore throat in 46 per cent. In 1921 there were 2.2 per cent of cases of rheumatic fever per 1,000, with a history of tonsillitis and sore throat in 40 per cent. He then subdivided the group tonsillitis and sore throat, placing all cases of tonsillitis together as one group, and all cases of sore throat, including pharynx, teeth, and gums in the second group. He then found that 30.6 per cent came under tonsillitis, and 23.3 per cent came under sore throat in 1915. And in 1921, that 33.7 per cent were due to tonsillitis, and 10.5 per cent to sore throat.

How much of a part decayed teeth play in the production of rheumatic fever in children is questionable. Statistics on the question are unavailable. It is certain, however, that decayed teeth are almost universal in the dispensary class of children, and it is equally certain that the majority of our cases of acute rheumatic fever are recruited from the same group. At any rate, the teeth should not be neglected.

As already mentioned, the potentially rheumatic child is apt to have defects in its gastro-intestinal functions. Sugar is not at all well borne, as has been noted by many pediatricians, and to a lesser extent the same is true of fats and red meats. It will usually be found, however, that if the child is placed on a well-balanced diet it will be well borne. The use of milk should be guided by the individual's tolerance for it. Frequently it is not at all well borne, and at times it may be necessary to withdraw it entirely from the diet.

For many years, dampness has been considered important etiologically. Recently, statistics have been published by the British Army[14] which tend to disprove this. Undoubtedly, getting wet or excessive chilling is important. The best method of overcoming their effects is a hot bath and a brisk rubdown just as soon as possible after exposure.

Again, in these potentially rheumatic children we come to that important word, *rest*. These are the children, as already stated, who are restless and excitable, burning energy that they can ill afford to waste. Such children should have ten or twelve hours rest in bed in a well-ventilated room every night, and a rest period of one or two hours each day. Nothing avails so much as this.

Finally, it is important not to call a well heart diseased. The distinction is extremely difficult at times, and requires exceptional skill and experience. We are referring to the hearts that present only a systolic murmur and to the so-called irritable heart. Many have been made semi-invalids by such a faulty diagnosis, entailing untold misery to themselves and a considerable economic loss to their community.

In conclusion, cardiac disease in children is essentially an aftermath of tonsillitis, acute rheumatic fever, or chorea. Other local or general infections are important, but play a minor part in comparison with them. Cardiac disease in children can be prevented by educating the public, by the formation of more convalescent homes, by eradicating all possible foci of infection, by rational hygienic and dietetic measures, and most important, by prolonged rest, both for the potentially rheumatic child and for the child convalescent from acute rheumatic fever, chorea, or other acute infections.

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THE VALUE OF THE ELECTROCARDIOGRAPH IN THE STUDY OF HEART DISEASE IN CHILDREN*

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Any one who has the idea that electrocardiography can in any way take the place of the whole or any part of the clinical study of heart disease has mistaken the rôle of this graphic method. A substitute it is not; a most valuable adjunct it most certainly is. To discuss its particular value and its real rôle in studying heart disease in children is the purpose of this paper.

While the electrocardiograph will oftentimes give valuable information concerning the state of the cardiac muscle, its greatest importance is the aid it gives in analyzing the abnormal cardiac rhythms. It is not necessary to point out how clearly the electrocardiograph shows the mechanism of the heart. The place of origin of the impulse, the mode of action of the auricles, the relation of ventricular to auricular impulses, whether the former are sequential to the latter, or whether the ventricular action is entirely independent of auricular stimuli—these and many other important facts are shown by the electro-

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cardiograph as they can be shown in no other way.

It is said that 70 per cent of the cardiac arhythmias can be correctly diagnosed by experienced observers by purely clinical methods. or even 95 per cent of the arhythmias can be diagnosed correctly. This additional 25 per cent of correct diagnoses gives tremendous aid in the accurate and efficient study of heart disease.

How important is correct diagnosis of a car-

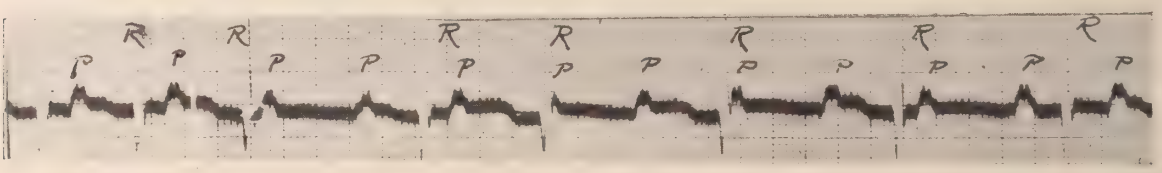


Fig. 1-a. Complete A-V heart block in a boy of 14. The block resulted from the excessive use of digitalis, given in a futile attempt to slow the sinus rhythm.

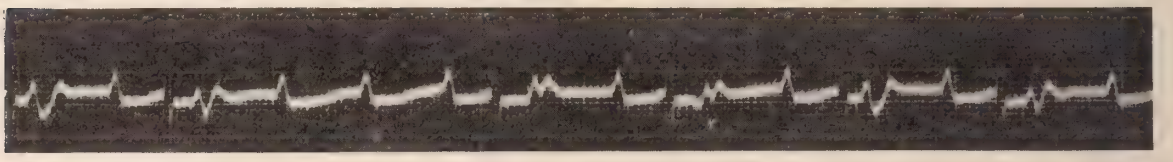


Fig. 1-b. High-grade heart block resulting from the excessive use of digitalis. The tracing illustrates the sinus tachycardia that toxic doses of digitalis will sometimes set up.

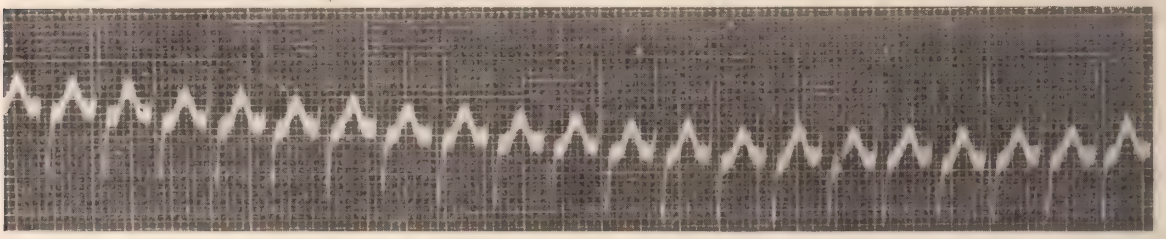


Fig. 2-a. Auricular paroxysmal tachycardia in a child of 3 years. Showing the paroxysm at its height. The ventricular rate is 216.

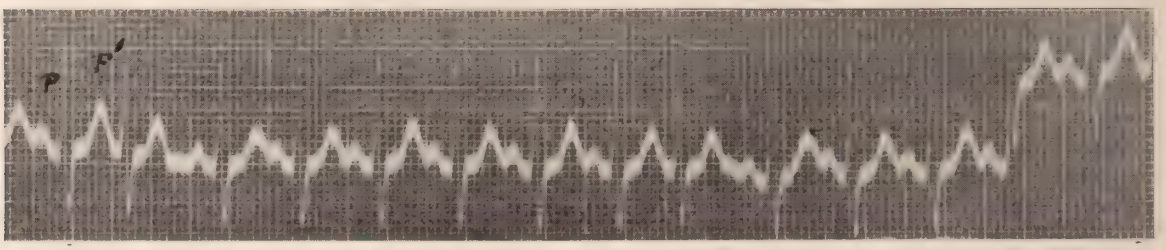


Fig. 2-b. Showing the normal sinus rhythm, interrupted by occasional auricular extrasystoles, immediately after the paroxysm was abolished by vagal pressure.

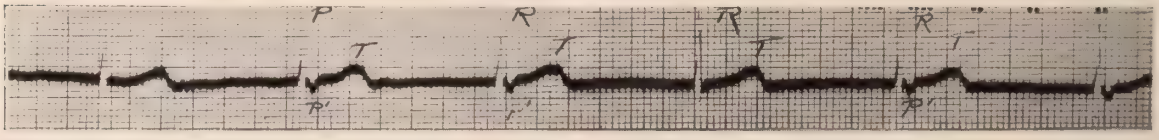


Fig. 3-a. Nodal rhythm in a child of 6 years. This mechanism was the only one observed over a period of 8 months.

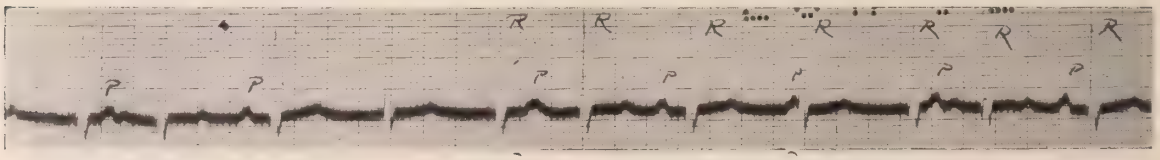


Fig. 3-b. A-V dissociation in a boy of 14 years. This rhythm was observed transiently during an attack of acute rheumatic fever. The ventricles, responding to the A-V node, have a faster rate than the sinus-controlled auricles.

This statement is certainly approximately correct. Its truth, however, does not derogate from the statement that the use of the electrocardiograph is the only means by which 100 per cent diac arhythmia? The answer can be only that it is often of vital importance. As the knowledge of heart disease has progressed during the last decade, much has been learned about its treat-

ment as well as its diagnosis. We actually have a drug now that approaches specificity in the treatment of one arhythmia. Before a comprehensive diagnosis or prognosis can be made, or rational therapeutic measures instituted, a correct diagnosis of an arhythmia must be made. Among other things, we have learned that the much used and abused drug, digitalis, is not indicated in every case of heart disease. It is not of help in all varieties of disturbed rhythm; indeed, its injudicious use may be the cause of the onset of several types of arhythmias.

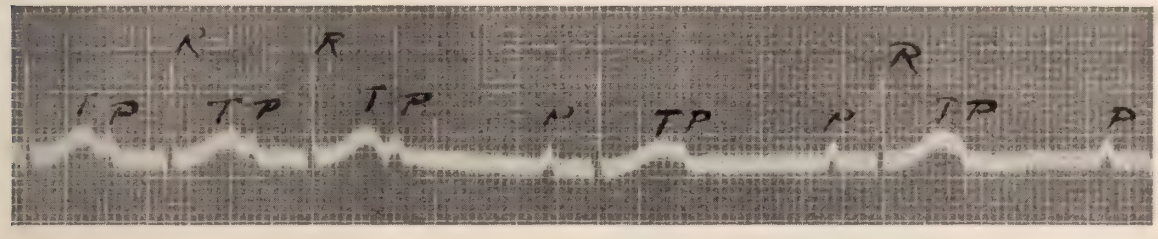


Fig. 4. Partial heart block in a child of 5 years. Its origin may be congenital, in that no other possible cause could be found.

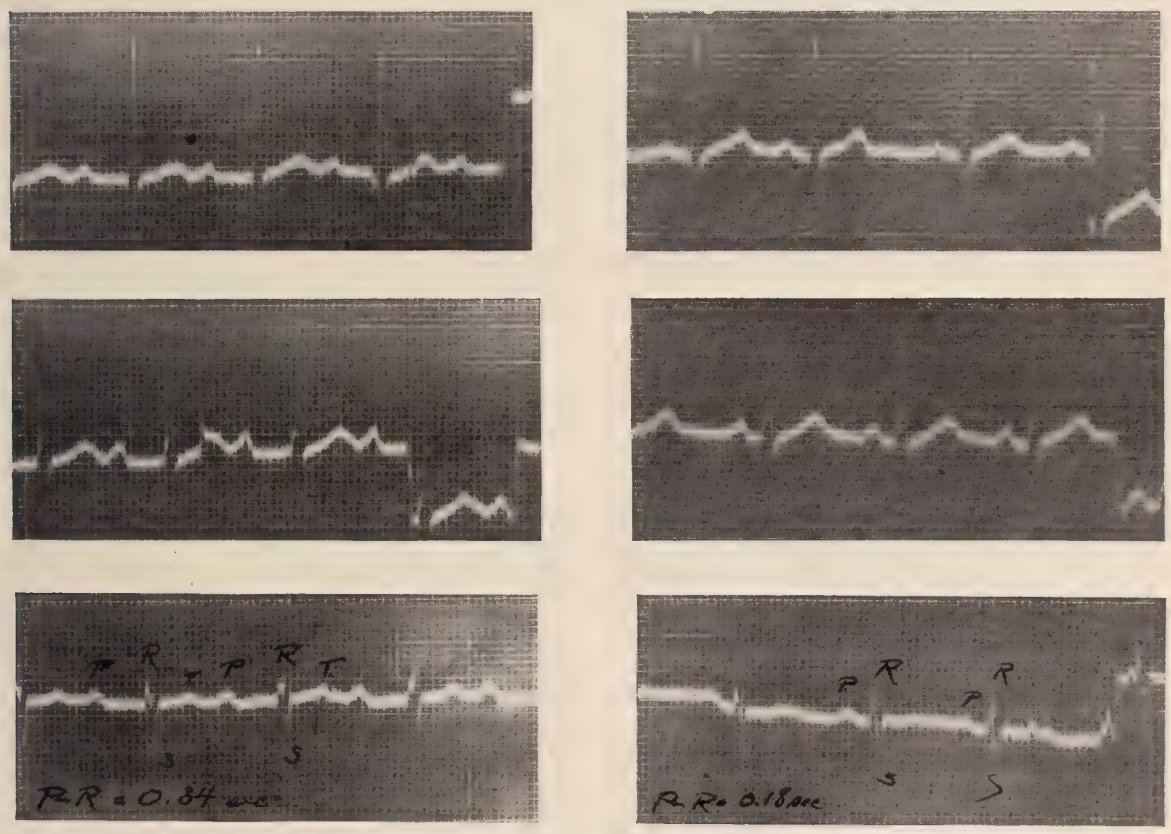


Fig. 5. Partial heart block during acute rheumatic fever. On the left the three leads show prolonged A-V conduction time, and a P-R interval of 0.34 seconds. On the right are shown the three leads of the same case taken five days later. P-R interval 0.18 seconds.

As an illustration, the case may be cited from which the electrocardiograph shown in figure 1a was obtained. The tracing shows short periods of complete heart block, occurring in a boy of 14 with an advanced mitral stenosis. The block was caused by excessive use of digitalis. The misuse of digitalis in this case resulted because of the misconception that this drug would slow a normal sinus rhythm. We have learned from the electrocardiograph that not only will digitalis not slow the rate of sinus impulses, but will actually at times speed their rate of formation. Figure 1b shows an example of digitalis block with an actual sinus tachycardia of 140 beats per minute. In the case of the boy, digitalis was pushed to the point of causing serious toxic manifestations without slowing the sinus rate.

Another way in which the incorrect diagnosis of an arhythmia may do harm is illustrated by the following case. A splendid-looking boy of

14 was referred to us for electrocardiography because of an irregular heart action. A clinical diagnosis of auricular fibrillation had been made some time before. The correct steps had been taken if the diagnosis had been correct: the boy was kept from all exercise and play. The electrocardiograph showed merely a marked sinus arhythmia and occasional auricular extrasystoles. It is impossible to tell how much insidious damage had been done by curtailing the natural impulses and development of a boy of 14. It does not seem unlikely that incalculable harm might be the result.

These cases have been cited to show in a rather crude way the importance of correctly diagnosing cardiac arhythmias. This importance is as great, possibly greater, in children than it is in adults. Granting, then, the importance of proper diagnosis and granting that the electrocardiograph is the only approximately perfect means of making this diagnosis, the importance of the method to the clinician will become evident if it can be shown that arhythmias occur with any frequency in children. This we shall attempt to do by quoting from the literature, and by citing examples from our own experience, which, by the way, has had to do with children only incidentally.

In the majority of instances, the abnormal heart findings encountered in adults are the result of some previous acute infection. In the case of children, the damaging processes may be seen as they originally happen. Arhythmias in children have a different significance than they have in adults. In the former they are being produced by the acute damaging process. In the latter they are the end result of the changes that the acute process brings about. The meaning of the occurrence of serious arhythmias during the course of acute infections can only be that the heart has been directly or indirectly involved, either by the infecting organism itself or its toxins. The prognostic and diagnostic significance of arhythmias in children offers promise, therefore, of being very great.

We have thus far used the term arhythmia rather loosely. There are at least two arhythmias the occurrence of which does not necessarily indicate cardiac damage. One, of course, is sinus arhythmia. The other is extrasystolic arhythmia. The latter may or may not indicate cardiac damage. Extrasystoles are encountered in frank heart disease, and again when there is apparently no cardiac involvement. The safest position is to regard their occurrence as indicating abnormality somewhere, not necessarily in the heart itself, but in the tonsils, teeth, sinuses, gastro-intestinal tract, or elsewhere.

The Arhythmias in Diphtheria

The writer of this paper has had no experience with the acute stages of this disease. That abnormalities of conduction are common is well known. The commonest disturbances are heart block and extrasystolic arhythmias. Beside these there are examples in the literature of almost every other classified arhythmia. Paroxysmal tachycardia, auricular fibrillation and flutter, nodal extrasystoles, and nodal rhythm are all represented by authentic case reports. These disturbances occur during the acute stage of the disease. Their presence is clear evidence of a serious involvement of the heart muscle.

Arhythmias as a Result of Disease Other Than Diphtheria

Auricular Fibrillation. The diagnosis of this disturbance without instrumental aid is as a rule not difficult, but twice we have actually seen it wrongly made in children. The diagnosis of this condition is a very important matter. Its presence in a child indicates that the heart is gravely diseased. If it is unrecognized, important diagnostic and prognostic data are missed. If, on the other hand, a relatively innocuous disturbance is mistaken for auricular fibrillation, even more serious results may obtain—in this case on the side of the mental and physical future of the boy or girl. It is unwise to make the diagnosis of so rare a disturbance in children without instrumental confirmation.

In our own experience we have seen but one case of this arhythmia, proved by the electrocardiograph, occurring earlier than the seventeenth year. This was in a boy of 15. Judging by the scarcity of reported cases, auricular fibrillation is exceedingly rare in children. In a series of 116 cases reported by Sir Thomas Lewis, only four occurred earlier than the twentieth year. There are records in the literature of only 4 cases under 11 years.[1] At least one of these is open to another interpretation. In two of the cases, the arhythmia occurred after a preceding rheumatic fever. One occurred during the course of an acute rheumatic fever, and one happened during diphtheria.

Auricular Flutter. Previous to 1920, this arhythmia was thought to be closely related to auricular paroxysmal tachycardia. For this reason, it seems likely that some of the cases diagnosed flutter are in reality rapid auricular tachycardias. It is not sure that there are any absolutely certain cases of this condition reported in children. It seems probable that one case reported by Lewis,[2] and one case reported by Koplik[3]

are examples of flutter. The former occurred at the age of 3 months, the latter at 3 years.

Auricular Paroxysmal Tachycardia. This condition is not rare in children. There are reports of at least seventeen cases in the literature. The cases of Koplik (*loc. cit.*) and of Brown[4] are good examples of this disturbance. Figure 2 is an example we have recently had, occurring in a child of three. The child had apparently recovered from an attack of rheumatic fever when the paroxysms were first noticed. During the tachycardia the ventricular rate reached 220. The paroxysms were promptly ended by vagal pressure.

The significance of this arhythmia is not altogether clear. We can say of its meaning exactly what was said of extrasystoles.

Nodal Rhythm. This disturbance of rhythm is not often met with in adults, nor is it common in children. It has been reported occurring during diphtheria, rheumatic fever, and acute tonsillitis. Figure 3 is an electrocardiogram that was obtained from a child of 6 years. The disturbance was first noticed during the course of an acute tonsillar infection. Frequent tracings taken over a period of eight months consistently showed the same rhythm to be present. It therefore presents the unusual feature of approaching permanency. In the majority of instances it is but a transient disturbance. The mechanism of this condition is a depression of the rhythmicity of the sino-auricular node to a point below that of the auriculoventricular node, the latter structure taking on the function of pacemaker for the whole heart. There is some evidence that the vagus nerve is in part responsible for the onset of this rhythm. In this case it apparently was not a responsible factor, for atropin failed to abolish it. We cannot speak with certainty, but when it occurs in the course of an acute infection and cannot be abolished by atropin, it does not seem unlikely that it may be due to a direct involvement of the heart by the acute infection.

A-V Dissociation, or Ventricular Escape, another condition closely related to nodal rhythm, is also illustrated by figure 3. In this condition the auricles are controlled by sinus impulses, while the ventricles are responding to impulses from the A-V node which are being given off more rapidly than are the sinus impulses. The rhythmicity of the A-V node is heightened above that of the sinus node, so that the former escapes from the control of the latter. The tracing was obtained from a boy 14 years of age, during an acute rheumatic fever.

Heart Block. This is the commonest serious arhythmia of children, judging by the number of reported cases. We shall not discuss sino-auricular heart block, because its existence as a distinct entity is questioned by many.

Auriculoventricular heart block, for purposes of consideration, may be divided into two classes: those which occur without an accompanying acute infection, and those which occur during an acute disease.

Cases that have been discovered in children without a coëxisting acute infection either have been congenital, or have been due to fibrous changes secondary to some previous acute cardiac infection, or they have been caused by some de-



Fig. 6-a. Partial heart block during acute rheumatic fever. Showing prolonged P-R interval: 0.36 seconds.

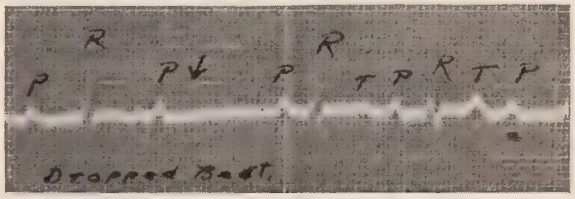


Fig. 6-b. Taken three days later, showing prolonged P-R interval and dropped beats.

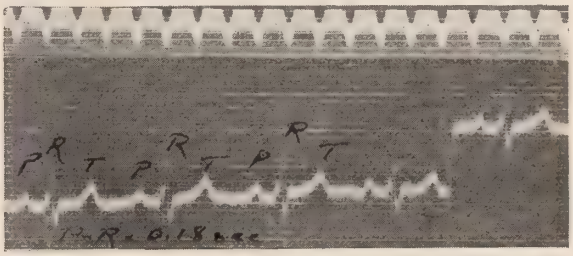


Fig. 6-c. Taken four days after Fig. 6-b, showing normal A-V conduction. This is an illustration of the transient nature of the block of rheumatic fever.

structive lesion such as a tumor or a syphilitic process.

There are at least sixteen cases of congenital A-V heart block reported, in which the diagnosis has been established with reasonable certainty. The youngest case on record was reported by White, Eustis, and Kerr.[5] An irregular fetal heart action was noticed 8 hours before birth. An electrocardiogram taken 4 days after birth showed the existence of a partial heart block. Congenital A-V block has usually been associated with other congenital cardiac defects, notably patent interventricular septa. The electrocardiogram illustrated in figure 4 was obtained from a girl of 5 years. It possibly represents an example of congenital block, inasmuch as no other cause was found.

Heart block due to a tumor has been reported in a child of 5 by Armstrong and Monckeberg.[6] We were able to find but one case in which congenital syphilis was the reported cause. It is questionable if the occurrence of the two conditions in this case was more than a coincidence.

Heart Block Occurring During the Course of an Acute Infection. Diphtheria has already been referred to as a cause of block. Some observers place the incidence of block in diphtheria as high as 25 per cent. Be these figures right or not, the incidence is undoubtedly high.

We wish to emphasize especially the incidence of heart block in acute rheumatic fever. A number of sporadic cases, in both children and adults, have been reported from time to time. Cohn and Swift[7] investigated this subject, and found some degree of heart block in 31 out of 37 cases. These figures show that block is to be regarded not only as a frequent, but almost as a constant occurrence in acute rheumatic fever. In 8 of the 31 cases, dropped beats were noted, and in the rest, a prolonged P-R interval. Of these 31 positive cases, 14 were under 13 years. Almost every one who has commented on the block of rheumatic fever has noted the precariousness of the disturbance. It apparently is just as likely to occur during the afebrile as during the febrile period. It may last one day or several. It is essential, therefore, that electrocardiograms be taken at very frequent intervals, preferably every day. A negative result otherwise means nothing.

In our own work, we have had 8 cases, in which electrocardiograms were made sufficiently often to warrant an analysis. In 7 of the 8 cases, there was unmistakable evidence of heart block. Our observations in other respects coincided with those of Cohn and Swift. Figures 5 and 6 are examples of block in acute rheumatic fever.

We believe that this is a very important matter. It is highly probable that the interference with A-V conduction is the result of a direct involvement of the heart muscle by the rheumatic process. If it be due to this, this finding furnishes us with a very valuable evidence of the acute rheumatic myocarditis that we look for so anxiously in every case of acute rheumatic fever. It cannot be said with certainty, however, that the interference with conduction is the result of a direct involvement of the cardiac muscle. It might be due to a toxic depression of the conducting function of the A-V node; several other remotely possible causes might be responsible. But when it is recalled that rheumatic fever studs the myocardium with very definite pathologic lesions, the so-called Aschoff bodies, it seems quite likely that these lesions are the cause of the block. At any rate, the matter deserves careful consideration and study.

SUMMARY

(1) The correct diagnosis of the cardiac arhythmias is essential for rational diagnosis, prognosis, and treatment.

(2) The electrocardiograph furnishes the only approximately perfect means of correctly diagnosing all arhythmias.

(3) Every arhythmia encountered in adult life occurs in children.

(4) The frequency of A-V heart block in the course of acute rheumatic fever is emphasized. It is suggested that its detection may furnish valuable evidence of acute rheumatic myocarditis.

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THE RELIEF OF HEART DISEASE IN CHILDREN*

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In this paper we shall briefly review only those points in the relief of heart disease in children which have been suggested or changed during the past ten or fifteen years.

Heart disease in children is at present divided into three separate groups: first, congenital; second, acute infectious; and third, postinfectious.

In congenital heart disease, the present trend of thought is much more optimistic. This has come about as a natural conclusion following the suspicion cast upon a physician's ability to determine the severity of a cardiac lesion by the character of the heart sounds or the intensity of the murmurs alone. Congenital defects in the hearts of children produce the loudest of murmurs, and yet we are beginning to realize, since the establishment of heart clinics, that a great many people with unquestionable congenital defects in the heart may live almost the full span of life. This point is emphasized also by the relatively recent conception that unless the myocardium is prevented from obtaining its normal nutrition, or is attacked by infection, no matter how great the

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strain put upon it by so-called "leaky valves," it has the reserve to "carry on." Therefore, unless cyanosis is present—which in itself limits the normal nutrition of the myocardium, due to the low oxidation of the blood upon which the heart muscle depends for its ability to carry on its normal function—the prognosis in children with congenital defects is excellent, and cyanosis is absent in a much greater number of congenital heart defects than is generally recognized.

However, cyanotic children will be more subject to pulmonary infection, as there seems to be a lowering of the efficiency of the pulmonary circulation. They also demand greater effort upon the part of both the family and the physician, to aid in their general physical development, than in the case of the average child. In the presence of cyanosis, the future is determined by the extent of the congenital defect and the amount of success in obtaining nearly normal general physical development in spite of the cyanosis. The fact that any one explanation of cyanosis in congenital heart disease has never as yet been positively accepted leaves room for the discovery of definite methods by which its effect may be counteracted.

In regard to the second group—infectious heart disease—we feel very strongly that the medical profession, not only in the rural districts, but in the larger cities, has been greatly at fault in not following up the children who have had acute rheumatic fever, chorea, "growing pains," and frequent attacks of tonsillitis, for possible heart damage; or in the presence of such damage, securing the coöperation of the families for long periods of rest in order to minimize the damage to such children's hearts. The difficulties which the physician must overcome are largely secondary to ignorance on the part of the laity, and this ignorance, it is hoped, will be gradually overcome by the information being distributed throughout the country by our city, state, and American heart associations. But the general practitioner still has a very grave responsibility, and must insist that children who have suffered from these infections be returned to him for frequent examinations and advice for at least two or three years.

The third, or postinfectious group, includes those cases of mitral insufficiency, mitral stenosis, and aortic insufficiency which have overcome the active infection and repaired the damaged valves with scar tissue. After the removal of the foci of infection, the majority of these children will increase in weight and do extraordinarily well if they are allowed to take part in the usual recreations of children of their age. It is not only safe, but a duty for us to allow them to return to practically normal activity *if* we are sure the active infection has been overcome. Many of them, however, do not gain weight, or lose during the winter that amount of weight which they gain during the summer. These are the children that should be followed up very carefully, as this is probably an evidence of beginning circulatory insufficiency of a mild degree, and demands efforts similar to those used in congenital cases in an attempt to enable them to gain weight as they should. They must also be assisted in securing an education or an occupation which will be sufficiently remunerative to make life worth while and yet not place too much of a burden upon the cardiovascular system.



Fig. 1. Convalescent Home, with children on the steps.

Figure 1 shows the Convalescent Home, outside of Philadelphia, in which we are attempting to give those children with active endocarditis sufficient rest in order that they may overcome the infection with the smallest possible amount of damage to their hearts. This work, we hope, will be instructive to the physician, the social-service worker and the parent, and probably the children leave this home with better prospects of becoming happy, useful citizens than if they had never had damage done to the valves of their hearts.

In conclusion, let me urge optimism in your attitude towards disease of the heart in children. Any one conducting an adult clinic for patients between 20 and 50 years of age who give definite



Fig. 2. A patient. Showing ineffectuality of treatment because of the presence of an active infection of too long standing.

histories of childhood infections which must have been the cause of their heart disease still present in middle life, will take a much saner attitude towards the prognosis in children who have been successful in overcoming active infections in spite of resultant cardiac damage. Although we can as yet offer no specific remedy, we believe that the future is much brighter than has generally been expected for children with congenital lesions and postinfectious damage to the heart.

The knowledge of heart disease among the laymen stands today in a position similar to the knowledge of tuberculosis twenty-five years ago. We ask your help in attempting to spread the true knowledge of the causes of heart disease and methods which we now have of preventing heart disease, and in offering to these little patients and their parents a much brighter hope for the future.

ABSTRACT OF DISCUSSION

ON CARE OF CHILDREN WITH HEART DISEASE

JOSEPH SAILER, M.D. (Philadelphia, Pa.): The care of children with heart disease is perhaps the most tremendous problem that has to be met in reconstructive medicine. Congenital heart disease is probably more common than is generally supposed. Patulous ductus arteriosus is not rare, and there are at least two congenital lesions which are more common than this, and which are not recognized in life as a rule. These are the two leaflets in the aortic valves and the four in the pulmonary valves.

The most important factor in the etiology of acute rheumatic fever and associated heart disease—the specific organism—must be isolated by the bacteriologist. Pathologists should attack this subject *en masse,* and then some better method of combating the disease may be found, for it is one of the most important subjects in internal medicine.

It is a very curious fact that parents and athletic directors believe they can wheedle the physician into allowing the patient more exercise, and that this eliminates all the risk. I have never felt it safe to allow a boy with a damaged heart to take such strenuous exercise as football or baseball. On the other hand, I agree with Dr. Stroud that too much restriction is often injurious. It is one of the very delicate difficulties which continually beset the treatment of heart disease.

While Dr. John Bryan, of Boston, who first introduced the subject of diathesis, carried his belief in its importance rather far, there is no doubt that this subject should be studied more carefully, because it may be possible to warn individuals against a particular type of disease to which they would be apt to be more susceptible as a result of their peculiar anatomical structure.



Fig. 3. Child, showing the effectuality of treatment when the active infection has been overcome by proper care, rest, etc.

There is still a great deal to learn about the interpretation of the electrocardiogram, but it will show conditions of the heart which could not be detected otherwise. The crying need at the present time is a portable electrocardiograph, since so many patients are at home and should not be moved. It will come in time, of course, and will be a tremendous addition to the diagnostic armamentarium.

At the present time, I do not know of any subject more important in the welfare of the child than the proper facilities for the treatment of heart cases. There is one hospital in Philadelphia for the care of these children which Dr. Stroud has mentioned. There should be at least two hundred beds in Philadelphia, and not less than one thousand in the State of Pennsylvania. They should be distributed in a sufficient number of hospitals to enable the children to be kept within reasonable distance of their homes. If this can be accomplished, we hope the subsequent bad effects of heart disease which has permanently crippled so many children can be prevented to some extent.

Symposium on Pyloric Stenosis*

CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS

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The five cases included in this study, occurring during a period from January, 1923, to April, 1925, were all first seen as office patients. Only one case was referred by the attending physician. In every instance, treatment was sought because of persistent, forceful vomiting, extreme constipation, and loss of weight.

The statement of the mother, in answer to the question, why her baby was brought to the doctor, uniformly was, "to find, if possible, some food that would agree with the baby."

Four of the infants were boys, and one a girl. Two, both boys, were first-born babies of young mothers. One boy was a fourth-born child of a young mother. The other boy was a third baby of a mother thirty years of age, and the girl was a third baby of a mother thirty-one years old.

The girl was of Jewish, one of the boys of Italian, and three boys of American parentage.

There was nothing in the history of any one of these infants to suggest the possibility of hereditary disease. Not one was acutely ill, and the temperatures were normal or slightly subnormal.

The ages of the infants when first examined were five weeks, six weeks, five weeks, four and one-half weeks, and five weeks. All were full-term, four were spontaneous births, and one an easy forceps delivery. The birth-weights were all above the normal average. All the babies were described by the mothers as being, at birth, well developed, well nourished, with no abnormality that attracted the attention of mother, nurse, or obstetrician.

In the three families having former children, there was no history of vomiting or difficulty in feeding the other infants.

Vomiting in these five infants began suddenly and forcibly in two cases. In the others, the onset was gradual, and was described as regurgitation during or following the feedings. In every infant, however, the time of first appearance of regurgitation was definitely fixed by the mother, which might suggest that the regurgitation was of a frequency and severity that would distinguish it from the regurgitation commonly observed in overfed or too frequently fed infants.

In three of the babies that temporarily received other food than breast milk, the change in food was made because of vomiting or regurgitation of the breast milk, and the vomiting could not be ascribed to an ill-adapted or faulty artificial food. But in every instance it was noted that vomiting was more frequent and more severe during the period of artificial feeding than when breast milk alone was taken.

There is no uniformity of the time of first appearance of vomiting. In one case there was no vomiting and no regurgitation at all during the first two weeks. This baby was exclusively breast-fed at three-hour intervals, with no feedings at night, had normal stools, a satisfactory gain in weight, and showed no signs of hunger. Early in the third week vomiting started suddenly, and was projectile in type from the onset.

In another, there was regurgitation after every feeding, beginning the second day after birth, and on the tenth day projectile vomiting began. The baby was promptly taken from the breast, fed condensed milk for three days, and then returned to breast feeding.

In the third case, regurgitation began with the first breast feeding on the first day, and continued without remission for three weeks. Not every feeding was accompanied or followed by regurgitation. There were a few real vomiting spells, but during the first three weeks there was no projectile vomiting. During this period the baby was not constipated, had one or two small but normal-looking stools daily, and made a slight gain in weight.

Another who was breast-fed vomited forcibly his first feeding, was constipated, and had very small stools which contained fecal material that

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showed milk curds for the first four weeks. Then one day there was no stool after repeated enemas, and the following day a typical hunger stool with no trace of milk curds. This baby made a small but steady gain in weight for three weeks, held a stationary weight for one week, and then there was a rapid loss.

The last of the series, a breast-fed baby, did well for the first ten days, with no regurgitation or vomiting, and had daily normal stools. The eleventh day he vomited some of his feedings, but not forcibly. On the fourteenth day the vomiting became forcible, and followed every feeding. Breast feedings were discontinued for one week, and several formula feedings and proprietary foods were tried, and the baby then returned to the breast. During this week he had lost much weight.

Physical examination of these five babies showed in every case a loss of weight amounting to emaciation, and in two there was moderate dehydration. In no case was there clinical evidence of acidosis. In all there was noted gastric dilatation, increased gastric motility, and visible gastric peristalsis. A pyloric tumor was distinctly palpated in cases 1 and 2, less certainly in case 4, and at several examinations not at all in cases 3 and 5. In the instances where a tumor could be palpated, it was firm, resistant to pressure, and persisted in the intervals between the spasmodic gastric contractures. The position of the tumor varied, as to vertical height, from the lower costal margin to a little above the level of the umbilicus, but invariably was found to the right of the median line.

Two patients were hypertonic, with increased tendon and cutaneous reflexes, tightly clenched hands, and upper and lower extremities alternately flexed and rigidly extended. In these two cases the administration of atropin, with the feeding of thick cereal gruel, for a time raised hopes which in the end proved false, and one was treated in the hospital for thirty-four days before it was decided to operate. The other, after treatment for one week with atropin and thick cereal feedings, during which time there was marked recession of vomiting, a gain in weight of one-half pound, and apparently a marked improvement in the general physical condition, suddenly collapsed and died. A partial autopsy was permitted, and thirty minutes after death, the abdomen was opened, the stomach and intestines observed, and stomach, pylorus, and duodenum removed.

The stomach was greatly dilated. Before removal, it was demonstrated that gas from the stomach could rather easily be forced through the pylorus into the duodenum by pressure on the stomach with cardia compressed. The intestinal wall was thin and collapsed. The stomach held about thirty cubic centimeters of fluid, approximately one-half the amount of the last cereal feeding taken about four hours before death. It was noted by the nurse that the baby had not vomited since the last feeding.

The pylorus was distinct, white, olive-shaped, and of cartilaginous consistency. It measured three and one-half by two centimeters. The lumen was patent but would not admit the passage of a number nine, French-scale catheter, but a slightly smaller size, olive-tipped metal probe passed through easily.

The other of the two cases, noted as showing hypertonicity, was observed at home for one week, and was given atropin and thick cereal gruel and breast milk with results that seemed encouraging. The vomiting was less frequent, and not always projectile, the weight loss stopped, the weight became stationary for two days, and then there followed a gain of four ounces during the following three days. There was a small stool daily by means of an enema, and the stools contained fecal matter with traces of milk curds. The baby then entered the hospital for better observation, and was treated expectantly for a period of thirty-four days before operation became an emergency measure. It is of interest to note the report of the roentgenographic studies of this case:

> Baby admitted to Allegheny General Hospital October 12, 1923. A barium meal was given in whey at 3:30 p. m. the same day. A small amount of barium passed out of the stomach in the first half-hour. At the end of a 17-hour period, probably three-fourths of the meal remained in the stomach. At the end of a 65-hour period about one-half of the barium meal was in the stomach.

The notation made by the roentgenologist was, "This is probably a hypertrophic stenosis."

Ten days later roentgen-ray examination showed that at the end of a 6-hour period very little of the barium had passed the pylorus, and at the end of the 24-hour period, one-half of the meal had passed from the stomach, and again there was a note by the roentgenologist that "this is most probably a hypertrophic stenosis."

The baby was apparently doing fairly well, and from October 30th to November 6th "regurgitation after feedings" only was recorded on the chart. November 7th regurgitation became more frequent and larger in amount, but the weight remained practically stationary, with a range from 6 pounds six ounces, on October 16th, to 6 pounds 4 ounces on November 15th, and a maximum weight on November 5th and

6th of six pounds 7 ounces. During the night of November 15th the baby showed signs of collapse; respiration became feeble, and the heart rapid. She revived measurably following prompt administration of adrenalin, external heat, and hypodermoclysis, and withstood the operation fairly well.

In marked contrast is the roentgen-ray study of case 5. This baby was admitted to the hospital April 8, 1925, and operation was performed April 11th. Following a barium meal on the day of admission, the stomach emptied slightly immediately following the administration of the barium, and was observed to be emptying quite normally at the 3-hour period. At the end of the 20-hour period the stomach retained about one-fourth of the barium, and at the end of the 26-hour period there was a very small amount of the meal remaining. The patient had received feedings at regular intervals following the 4-hour period of the barium meal. At the end of 36 hours the stomach held none of the barium meal. The notation by the roentgenologist was, "This is not a hypertrophic pyloric stenosis." Belladonna was administered before feedings, and not all feedings were vomited, but the weight, which was six pounds on admission and had increased one ounce in the first twenty-four hours, on the following day showed a loss of seven ounces, and the baby had developed a rapid heart with cyanosis, and operation was done with no further delay. Following the operation, the baby's condition was not good, and fifty cubic centimeters of whole blood was given intramuscularly and continuous enteroclysis employed for some time. After the first 24-hour period following operation there was good improvement, and the patient made a nice recovery.

It is remarkable that a pathologic condition attended by signs and symptoms that are so constant, and variable only within narrow limits, should have escaped recognition for so long a time. Hirschsprung seems to have been the first to call attention to the condition in young infants, although several years previous to his published report, Landerer,[1] in 1879, and Maier,[1] in 1885, published descriptions of a number of pylori taken from adults, that showed stenosis without evidence of accompanying inflammation. Of the 31 cases reported by these two writers, 22 showed definite tumefaction.

Many theories have been advanced by different observers since Hirschsprung's publication in 1888, attempting an explanation of the condition. These theories, in most instances, seem conflicting, and fail to give a clear and definite idea of the exact etiology. Most of the earlier writers expressed the belief that gastric muscular spasm was the primary factor in the causation of the muscular hypertrophy. There were others who considered a possible hypertrophy associated with spasm, with resultant increase in the hypertrophy due to the continuous influence of the spasm on the muscle fibers of the pylorus. This they believed a satisfactory explanation of the late appearance of obstructive symptoms in certain cases.

To one who has seen and examined the distinct, hard, cartilaginous tumor of the pylorus in an infant only a few weeks old, it would seem hardly possible that such a condition could have developed in so brief a time; and the belief that hypertrophic stenosis of the pylorus in young infants is an anatomic defect of unknown cause and congenital origin is becoming current, as many more of these cases are seen at operation or autopsy.

It is apparent, however, both from the symptomatology and the roentgenographic examination, that difference exists in the degree of obstruction caused by the pyloric tumor, and it might seem that this fact could form the basis for differentiating cases suitable for medical or dietetic treatment from the cases that probably would not recover without operation; but it is doubtful if this will be accomplished in the immediate future, if ever. Certainly, there are other factors not yet recognized that are present, and would make hazardous a plan such as this. Among the cases comprising this study, there was one infant, case 5, where roentgen-ray examination showed very slight obstruction, and this patient surely would have died without operation, for it revealed a very large and typical tumor, the largest in the four cases operated upon. In case 3, the roentgen-ray findings indicated obstruction of high degree, and yet this baby went along with medical and dietetic treatment for one month, and apparently did fairly well, although operation was a life-saving measure in this case also.

In the past few years, reports have been published of rather large series of cases, with definite diagnosis made of congenital hypertrophic pyloric stenosis, treated by medical, or dietetic, or special methods of management, with results stated to be uniformly successful. One report[2] states that for ten years "in not one patient with pyloric stenosis, was it necessary to resort to operation," and that "every one made a perfectly definite and uninterrupted recovery," with the exception of one possible case, and in this case the relapse was doubtful.

It seems there might be reasonable doubt as

to the correctness of diagnosis in at least some of the cases comprising these reports. With all the means at command at the present time, there is no absolute, exact rule or method by which it is possible to evaluate all the factors in a given case; and in the instances where large numbers of consecutive cases have been treated with uniform success, if the condition were demonstrated either at operation or autopsy, the diagnosis would be confirmed, but the failure of the treatment would be evident.

Within the period covered by this report, a little longer than two years, there are included in the office files the case records of 47 other infants under two months of age, where question of the diagnosis of this condition arose. In all of the 47 babies there were present some of the diagnostic signs and symptoms held essential for the recognition of hypertrophic pyloric stenosis. In a small number, approximately one in ten, there were found most of the diagnostic signs except one—the presence of a distinct, firm, palpable tumor, persisting in the intervals between gastric contractions. Not one showed the presence of such a tumor. Many of these babies were badly bottle-fed.

Of the 47 babies, not one, so far as is known to the writer, has since come to operation because of pyloric or intestinal obstruction. Nearly all of the babies were under observation long enough to note satisfactory progress in growth and weight. The majority improved promptly after correction of faulty foods or bad feeding practices, or the clearing up of some infection. It was possible to return some to breast feeding with good effect. The vomiting did not always stop, but a better gain in weight and a less troublesome baby almost always followed a return to the breast, even in the cases requiring complemental feedings.

Whenever a baby seemed to be of the hypertonic type, atropin or belladonna was given with apparently good results. In not every case was vomiting controlled, but it was noted that the baby was happier, less irritable, slept better, was less constipated, and gained more steadily in weight.

The feeding of thick cereal gruel was found to be troublesome, and in every case in which it was tried, the results were not sufficiently encouraging to warrant its use for any considerable length of time. It is only fair to mention that in no case was a baby attended by a skilled nurse, and the mother, usually after a short trial, became discouraged and refused to continue.

Further, it was noted, in the majority of these cases, that when the age was reached when it is usual to begin the feeding of the semisolid foods used in early supplemental feedings, that is, when the baby became old enough to help himself to eat, then most always the vomiting decreased. In the few cases where vomiting persisted through the entire first year or longer, there was present an unmistakable neurotic taint in the family of the child.

A summary of this report shows that during the period covered, in a total of 52 infants under eight weeks of age, the possibility of the presence of hypertrophic pyloric stenosis was considered. In five the condition was confirmed, in one at autopsy, and in four at operation. All of the five patients came under observation rather late, after symptoms had been present for some time and various feeding procedures had been tried without success. The four patients that came to operation were not considered good surgical risks at time of operation. All made good recoveries. Three of them have been seen at intervals to the present time, and are physically normal. One was reported a normal, vigorous infant six months after operation. The sex incidence in this small number of cases is the same as that determined for the numerous large series reported in the literature, namely, 80 per cent males.

In the 47 infants in which there were symptoms suggestive of pyloric stenosis, the subsequent course and final outcome would indicate that probably in no case was serious organic obstruction present. In many of these cases the cause of vomiting was ascertained. All of the five infants that were found to have a true hypertrophic stenosis of the pylorus, were breast-fed at the start; most, but not all of the others were artificially fed during the first weeks.

CONCLUSIONS

The diagnosis of hypertrophic pyloric stenosis may be easy or difficult, depending on the signs and symptoms present.

The most reliable diagnostic sign is the presence of the typical pyloric tumor, the recognition of which is possible in a majority of the cases.

Conclusions based on the roentgen-ray study considered alone, may be misleading as regards the selection of cases for operation.

In a given case presenting the general characteristics of pyloric stenosis, operation without delay offers a better prognosis for the infant than any of the nonoperative methods of treatment.

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PYLOROSPASM

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The condition commonly spoken of as pylorospasm is known to occur at various periods of life, but here we are interested alone in a group of symptoms which are wont to present themselves between the second and thirteenth week of life, and which include a failure to gain weight, or often a rapid loss in weight, vomiting which usually is projectile, constipation or diarrhea, sometimes with evidence of perverted gastric or intestinal peristalsis, and positive therapeutic test —the effective administration of atropin. The symptoms just set forth have been described under a variety of headings[1] such as vagotonia,[2] autonomic imbalance,[3] the hypertonus of infancy,[4] and gastronévrose émétisante.[5] Whenever one notes a variety of titles, it is safe to assume that the etiology and pathology of the subject in question are shrouded in mystery, and that seems to be the case here.

The time allowed is too short to discuss in detail the various theories which have been promulgated to explain the cause of this condition. Suffice it to say that the majority of writers attribute the disorder to an imbalance of the autonomic or involuntary nervous system, which, of course, consists of two divisions, the parasympathetic and sympathetic, the functions of which are opposing. When there is a diminution in the intensity of one or an exaggeration in the intensity of the other, we have the clinical picture set forth above. Because it seems inconceivable that this disorder should be limited to the pylorus, and because it is so frequently improved by the drug atropin, which we know is not specific to the pylorus in its action, the term gastro-enterospasm[1] has been strongly advocated by Dr. Park J. White of St. Louis, who has written an excellent and interesting monograph on the subject. There are those who believe that all cases of congenital hypertrophic stenosis of the pylorus may thus be accounted for, and therefore cured by atropin. For example, Haas[6] states: "I hold as my thesis that so-called hypertrophic pyloric stenosis is merely an advanced degree of pylorospasm and is only a manifestation of a general state whose etiologic factor is an overaction of the vagus portion of the autonomic system and is usually a hyperexcitability of all motor functions."

The report of Dent[7] that a tumor of the pylorus was present in a seven-months-old fetus, and the experimental work of Tumpeer and Bernstein,[8] who produced an artificial stenosis in animals, suggest that this is a condition with a congenital origin. Holt[9] makes the emphatic statement: "It is our firm belief from our observation of these patients in the early weeks that in all cases hypertrophy precedes the tonic spasm." Morse,[10] Howland,[11] Lewis and Grulee,[12] and Walton[13] have reported cases in which the tumor was present at necropsy in children who died from other causes after operation or recovered without operation. It therefore seems obvious that pylorospasm never is the cause of a physical pyloric stenosis, but whether pylorospasm can be engendered by other causes than at least a partial congenital hypertrophic pyloric stenosis is still a mooted question, and it remains a subject for further investigation.

White[1] believes that tetany, protein sensitization, and the exudative diathesis may be associated in some way with these cases of gastro-enterospasm. The observations of Lemaire and Olivier[5] in four infants with habitual vomiting whose ages ranged from seventeen days to six months, all with clinical symptoms of pylorospasm plus those of tetany with no improvement until calcium chlorid was given, are especially interesting to the speaker inasmuch as he had a similar experience in one case where the child revealed the symptoms of pyloric obstruction plus generalized hypertonus plus convulsions. The success of calcium chlorid in cases associated with manifestations of tetany, and the success of atropin in other cases brings us to the very interesting possibility that we may be dealing with two types of cases—one in which there is chiefly an autonomic imbalance, the other in which we have either superadded or independently a chemical imbalance. At least, much research could be done along these lines. And while we are in a speculative mood, would it not be interesting to know also: first, how often these infants with "spasm" have as a background a neurogenic family history; and second, how often in later life they present themselves to their physicians with allied disorders such as cyclic vomiting and gastric neuroses.

Youmans and Greene[14] recently reviewed and summarized the subject of gastric tetany in the following way: "Beginning with the experimental work of McCann[15] and of MacCallum[16] and his associates, many experimental and clinical studies have demonstrated that gastric tetany is accompanied by and associated with an alkalosis, as indicated by an increase in the blood bicarbonate and a decrease in the hydrogen-ion concentration. There also occurs a lowered concentration of blood and urinary chlorids, an increase in the phosphates and sulphates, and a variable rise in the nonprotein nitrogen of the

blood. In addition, under similar conditions blood changes in the same direction have been noted in animals and in patients exhibiting to a less degree some of the signs and symptoms observed in tetany. That these changes in the constitution of the blood are due to the loss of hydrochloric acid by vomiting seems definitely established, but the exact mechanism responsible for the production of the tetanic phenomena remains in doubt." "A consideration of various investigators of all forms of tetany suggests the following possible explanations of the production of gastric tetany: (1) The direct effect of the increased alkalinity on the peripheral nerves, causing increased excitability. This possibility is supported by certain fundamental experiments of the type reported by McClendon,[17] and indirectly by the work of Grant and Goldman[18] on the tetany of hypernea. (2) An indirect action of the increased alkalinity by way of an anoxemia and consequent irritability.[19] (3) A disturbance in the concentration and ratios of various cations of the body resulting from the change in acid-base balance. This refers particularly to changes in the calcium-ion concentration,[20] a disturbance in the calcium-sodium ratio, or more fundamentally to the monovalent cation: divalent cation ratio. (4) A disturbance in the anion concentrations and ratios[21] not necessarily caused by the altered base balance itself, but accompanying it and due to the same cause, i. e., the loss of hydrochloric acid. This explanation involves particularly the bicarbonate,[20] the phosphate, and chlorin ions,[21] and includes the possibility of the effect of disturbed relations between anion and cation." According to DeBayle,[22] no histologic changes have been found in the peripheral nerves.

The line of demarcation between these *clinical* cases of "spasm" and "tumor" in respect to diagnosis is a fine one. The age of incidence is the same in both groups. Vomiting, loss of weight, and perversions of peristalsis occur in both. The persistent observation of a tumor on palpation would argue more in favor of a pronounced physical stenosis. Fluoroscopy sometimes is of value. The success of medical measures would strongly suggest that spasm was a major element in the case.

There is another group of cases which must always be kept in mind when the question of diagnosis arises—the congenital atresias and stenoses of the intestinal tract which sometimes present a similar clinical picture. However, the onset is usually almost immediately after birth, and here I believe fluoroscopy has its greatest value. One usually notes under the fluoroscope that the pylorus opens and empties after a normal fashion, but stasis occurs in the duodenum or at the duodenojejunal junction. Hence, the surgeon being informed about where he may expect to find the obstruction, he is able to save precious time.

A case in point is that of baby Marion B. who was referred to the pediatric service of the Allegheny General Hospital by Dr. Giacomo Conti on the patient's fifth day of life. The family history was negative. The delivery had been normal. About 48 hours after birth, the child began to vomit immediately after feeding. The emesis was projectile in character. On physical examination, she was noted to be a well-nourished, Italian female infant, normal in every way except for a small palpable mass just below the ensiform cartilage. A barium meal was given by Dr. W. B. Ray, who made the following notations: (1) The stomach empties normally, but the second portion of the duodenum is very much distended. There is a small portion of the meal in the ileum. (2) After 24 hours there is still evidence of the meal in the duodenum." His conclusion was that there were congenital adhesions vicinal to the duodenum which were causing a partial obstruction. Dr. Walter Dearth performed a laparotomy, and adhesions were found at the duodenojejunal junction, which of course were loosed.

This brings us to the management of these cases of pylorospasm. As always in medicine, this varies with the individual case. If possible, the child should be kept at the breast. Immediately after vomiting it should again be fed. A fresh preparation of atropin sulphate, beginning with 1/960 of a grain and gradually increasing to the point of maximum toleration, sometimes proves very effective. In cases in which there appears to be evidence of gastric tetany, the subcutaneous administration of sodium chlorid may prove specific. Where breast milk is unavailable, Sauer's thick cereal feedings or Marriot's lactic-acid milk may be resorted to.

In the medical management of these cases, a careful observation of daily weight is indispensable, and in cases which drag on, or where the family is unable to pay for a long hospital sojourn, it would seem advisable to resort to a Fredet-Rammstedt operation. The latter is a comparatively safe procedure in the hands of a skilled surgeon. It is the fervent plea of the surgeon[23] that operation for pyloric obstruction should never be considered as an emergency measure, and it would seem only reasonable for us as clinicians to turn over borderline cases to the surgeons before the infants have become almost hopeless risks. Gastric lavage does not have a place in the medical treatment of these cases, for it tends further to deplete the already famished system of the chlorid radical, and thus to precipitate a condition of alkalosis.

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CONGENITAL HYPERTROPHIC PYLORIC STENOSIS AND PYLOROSPASM FROM THE VIEWPOINT OF THE ROENTGENOLOGIST

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The study of pyloric stenosis in infants is one of the most interesting with which we have to deal. The etiology has not been definitely settled. This condition has been reported more frequently in recent years, and therefore, is not so rare as was formerly supposed. In days gone by, many of the infants who died supposedly of inanition were undoubtedly victims of pyloric stenosis. The degree of stenosis varies in the different patients and in the different periods during the illness of the same patient.

There are at least two classes of pyloric obstruction; namely, congenital hypertrophic stenosis, and spasmodic pyloric constriction. We class under hypertrophic stenosis those cases in which the stomach does not empty enough to nourish the patient, even with the continuous administration of belladonna; and under the spasmodic type, those that do relax under the use of belladonna sufficiently to allow the child to have proper nourishment.

There is another type of case, due to adhesions in the second or third part of the duodenum, that is very similar to these cases. It can be diagnosed, previous to operation, only by x-ray. We have one case of this nature which has been reported by Dr. Elterich. The symptoms are vomiting, deficient defecation, progressive emaciation, concavity of the lower abdomen, distention of the gastric region, visible peristalsis, and pyloric tumor. It is not necessary for all of these symptoms to be present in order to make one suspicious of inanition due probably to stenosis. In a large percentage of the cases we have had, we could decide the diagnosis definitely and quite promptly.

During the discussion of a paper on this subject by Dr. Lewald years ago, I decided that the x-ray was the greatest help in diagnosing these cases. In my early years as a roentgenologist, I examined several of these children to determine what was the cause of their inanition and whether the condition was due to hypertrophic stenosis or spasmodic constriction. We have not learned of any mistaken diagnoses.

Later, in one case we followed for over twenty-four hours, during which practically nothing had passed the pylorus, the diagnosis of hypertrophic stenosis was made and operation advised. Fortunately, belladonna had been given to the patient, and before the operation could be started, the patient began to pass barium. The operation was postponed, and the patient recovered completely under the treatment for spasm. Since that time, we have routinely given all these patients belladonna, and are convinced that if it were given by the general practitioner, many cases would not have to come to the roentgenologist and surgeon for diagnosis.

A large percentage of such cases are due to spasmodic constriction. Of course, there is a certain percentage of them which are congenital hypertrophic stenosis, and these patients should be tried out with belladonna early, and sent to the surgeon while there is still hope of saving their lives.

A barium meal is given, and the action of the stomach observed fluoroscopically. These patients are so small, and the x-ray passes through them so rapidly that the least particle of barium leaving the stomach can be seen without any trouble; hence it is as plain as reading an open book. If, after watching the patient for twenty-four hours, there is the slightest doubt that the difficulty may not be due to hypertrophic stenosis, belladonna is then given. This drug should be given in all cases that appear to be hypertrophic stenosis, for many of them are due to a spasm of

the pylorus that can be differentiated only when the spasm is relaxed by the belladonna.

If there is any doubt in the mind of the internist as to the nature of the trouble, the case should be studied by the roentgenologist.

ABSTRACT OF DISCUSSION

ON SYMPOSIUM ON PYLORIC STENOSIS

THOMAS C. KELLY, M.D. (Philadelphia, Pa.): In pylorospasm it is a question of adequate nourishment, helped by belladonna and thick cereal feeding, but true stenosis should be operated upon promptly, before the child is too dehydrated and in too poor physical condition to survive the operation. Our experience is that, with good surgical treatment, the mortality is less than one per cent. Dr. Harry Deaver has reported a series of over fifty cases with no mortality.

HENRY T. PRICE, M.D. (Pittsburgh, Pa.): The symptoms are pretty well differentiated in the two conditions. Pyloric stenosis is a definite surgical condition, and must be so treated, while pylorospasm is a medical condition which in most cases responds to treatment.

Unfortunately, it has not been my experience to find that belladonna was specific in cases of spasm, and if a child does not improve under medical treatment, I feel it is wise and indeed proper to advise operation. While I have seen patients who have been transferred from my care to that of other physicians recover without operation, others have died, and I have not wavered from my original stand, as the operative mortality is so low and the results more satisfactory.

JAMES H. MCKEE, M.D. (Philadelphia, Pa.): In one case, the parents refused early operation. Later, when they wanted it, the baby was in too poor condition to permit. His weight fell rapidly from 7¼ to 5 pounds. When about 3 months old, he was below 5 pounds. He was 7 months old before he passed above 5 pounds, when he started to gain very rapidly. In another case, the surgeon suggested waiting to see if the patient would fall below 8 pounds. He never did, and at one year, he weighed 29 pounds.

A symptom that was not mentioned by any of the speakers is hematemesis, seen in severe cases.

After operation, these babies often require the most skillful treatment. Symptoms may recur postoperatively, even on mother's milk, if a considerable quantity is fed.

Apparently all babies under 3 months possess the potentiality for development of severe pyloric spasm. At autopsy, as the pylorus is viewed from the duodenal end, the appearance of the cervix uteri is presented, and the muscular coat of the pylorus is much thicker than at later periods of infancy.

JOHN D. STEVENSON, M.D. (Beaver, Pa.): In Pirquet's clinic their method of administering atropin was to make a solution of one to one thousand, and give the baby one drop preceding the feeding, one drop with the feeding, and one drop following the feeding, four times a day.

It has been my custom to make a therapeutic test with atropin, and if that does not relieve the patient after a few days, to refer the case to the surgeon. Of the seven or eight cases I have had in the past 20 months, three of these did not respond to atropin. They made a nice recovery after operation.

GEORGE J. FELDSTEIN, M.D. (Pittsburgh, Pa.): Cases of pylorospasm and pyloric stenosis show a remarkable tendency to sudden development of high temperature, even when the patient apparently is not doing badly. Usually there is only a single rise, but exceptionally it may be repeated. This has been ascribed to various causes, but as yet no explanation is entirely satisfactory. Overheating by external means and (in cases getting saline infusions) salt fever are probably not factors. Atropin fever may explain the sudden rise, as may also sugar fever where glucose has been given in excess by infusion. In the majority of cases, the fever undoubtedly is due to metabolic disturbances and insufficiencies following chronic inanition and dehydration. This results in such metabolic changes as Dr. Elterich has mentioned in his paper.

In every case on thick cereal feeding, it is necessary to see that the child receives sufficient fluid by whatever method it can be given. Neglect of this may result in high temperature. In a case of pylorospasm where the child had been placed on thick farina feeding, but without an adequate liquid intake, the patient developed a rectal temperature of 109.2°, and seemed about to make an exitus. Prompt sinus injection of normal salt solution brought about immediate improvement. Further medical treatment, with a constant supply of sufficient fluids resulted in recovery.

In desperate cases, a sinus transfusion of citrated blood before operation may be life-saving. Recently, the use of glucose solution by the intravenous or intraperitoneal routes or by hypodermoclysis, in conjunction with insulin, 15 units to each 20 gms. of carbohydrate, has been advocated.

Affections of the Ocular Nerves Arising from Suppurative Otitis Media and its Complications*

PATHOLOGICAL CONDITIONS OF THE OCULAR NERVES FOLLOWING OTITIS MEDIA

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In the diagnosis of intracranial complications of suppurative otitis media, it has long been recognized that an eye examination and report often were of great assistance in reaching a conclusion. Such an examination is usually confined to a study of the nerve head for signs of papilledema or choked disk, and a positive finding indicates an increase of intracranial pressure caused by one of many different pathological conditions. But not every local increase of intracranial pressure causes papilledema; the pressure must be located in such a way that it will be exerted upon some part of the nerve, and even when so located, if gradual in increase, marked changes in the nerve head may not be observed. In recent years more attention has been paid to paresis or paralysis of the extraocular muscles, and, with a better understanding

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of the various causes that affect their governing nerves, such symptoms, when observed, possess great diagnostic value for the otologist. Isolated palsies of the external rectus, while rare, are the most important and are probably becoming the best understood, though the pathologic problems as to why there is at times a contralateral or a bilateral paralysis are still open to speculation and study, in spite of the recent notable work upon them by Sears.

To the ophthalmologist, it is important to know that these ocular-nerve affections can be, and often are, caused by extension of middle-ear suppuration, and that, therefore, the ear should have due consideration and care. To the otologist, the occurrence of this symptom in the course of a suppurative otitis media is a warning that extension has taken place within the cranium, that a grave condition is present, and his patient is in danger unless treated with skill and judgment, though many such cases recover both as to eye symptoms and ear pathology without major surgical intervention.

Speaking briefly in respect to the pathologic origin of such eye conditions, we may say that they are caused either by toxic action of pus in contact with the nerve or nerves (a toxic neuritis), or by direct pressure, and that pressure is probably the most common cause. In either case, we must trace the infection from its source to the different points, by different pathways, where the pressure is exerted or the pus, in apposition to the nerve, causes a toxic neuritis. Many intracranial pathologic conditions may cause such a paralysis, but in these palsies under consideration it is usually some small localized point of infection that causes an isolated neuritis or palsy, rather than a general increase of intracranial tension, which latter might cause multiple palsies. Brain tumors in certain locations, and of sufficient size and rapidity of growth, may act thus, but are, of course, beyond the scope of this discussion.

The intracranial extensions of middle-ear suppuration that are the direct causes of ocular nerve paralysis are localized areas of leptomeningitis or pachymeningitis at the base of the brain around the petrous pyramid, extradural abscess of the temporosphenoidal lobe, temporosphenoidal abscess, cerebellar abscess, thrombosis of the lateral, the petrosal, and the cavernous sinuses, and generalized leptomeningitis. Fractures through the pyramid involving the ear may be a causative factor, but can hardly be classified as of middle-ear origin.

How the infection originates in the middle ear does not now concern us, and is reasonably well known to all. Granted, then, a middle-ear suppuration, either acute or chronic, the various pathways of extension are as follows:

1. Through the air spaces of a well-pneumatized petrous bone, to abnormally large cells at the tip or apex. This is without doubt a common course for the infection to take, and was the one usually considered as causing the Gradenigo syndrome of trifacial pain, abducens paralysis, and middle-ear infection. In such a case, infection travels from cell to cell till the region of Meckel's cavity is reached, causing the Gasserian type of pain, and encroachment is made upon Dorello's canal, through which the sixth nerve passes, causing the abducens paralysis. The intervening cell walls need not become necrotic in this process, nor need a fatal meningitis develop, as shown by the fact that some of these cases recover without extensive surgical drainage. A localized edema, a localized serous or protective meningitis, may cause enough pressure to account for the symptoms, and such pathologic processes may recede as the infectious source is drained. In such a case, much would seem to depend upon the character and virulence of the causative organism and the general resisting power of the individual to this organism.

A pneumatic petrous bone not infrequently shows a series of air cells extending around the eustachian tube, tympanic orifice, and thence along the anterosuperior aspect of the pyramid; or such cells may follow and surround the internal auditory meatus, and thus give access to a tip cell, one of whose walls is usually very thin. Inflammation of this wall produces edema and inflammatory exudate, even without perforation. Necrosis and perforation cause a localized pachymeningitis or extradural abscess.

2. Extension by way of the labyrinth. Involvement of the inner ear may take place through erosion of the external semicircular canal or of the promontory (usually in chronic otitis), by infection passing through the round or oval windows, by fracture, and possibly by the blood. Instead of a minute opening into the labyrinth, a large portion or even the whole of the petrous portion may be attacked by osteomyelitis or become necrotic, readily causing paralysis of the eye muscles. From a diseased labyrinth, infection travels inward along the course of the 7th and 8th nerves to the internal auditory meatus, causing a localized meningitis at this point or a generalized meningitis, or it reaches the intracranial space by way of the ductus and saccus endolymphaticus or the aqueductus cochleæ.

3. Through a developmental or pathologic de-

hiscence in the tegmen tympani, or in the floor of the hypotympanum, infection may reach the dura above, causing a meningitis that may extend to the region of the nerves under discussion, or a brain abscess that will cause pressure; or it may extend below, causing a jugular-bulb thrombosis with subsequent infection of the lateral, petrosal, and cavernous sinuses.

4. Via the mastoid antrum, through the aditus, causing an infection and perhaps a necrosis of the cells of the mastoid process. It has been repeatedly observed that a comparatively mild infection of the middle ear or antrum may cause an ocular paralysis which may be relieved by a myringotomy or a simple mastoid drainage. From the mastoid antrum or cells, the infective organism gains intracranial access by penetrating the inner cranial table by way of the blood vessels, a retrograde thrombosis, or by destruction of the plate *en masse,* causing an extradural abscess, a localized pachymeningitis or leptomeningitis, a general infection of the pia-arachnoid spaces, a cerebral or cerebellar abscess, or a thrombosis of the lateral, petrosal, or cavernous sinuses.

It must not be forgotten that an infection of the middle ear through the eustachian tube may be of such transient character as to cause little attention and leave little evidence of its presence, and yet be sufficient to cause any of the above-enumerated grave intracranial complications, any one of which may in turn affect more or less seriously the ocular nerves. Sears, indeed, suggests that at least some of the cases of contralateral abducens paralysis may be caused by such a mild overlooked infection in the ear opposite to the one that shows marked infection and obvious tissue destruction.

The pathways taken by middle-ear infection in reaching intracranial structures have been briefly sketched. If the anatomy of these parts is thoroughly understood, it is then not difficult to comprehend how each of these pathologic conditions may, according to its individual location, exert pressure on one or more of the ocular nerves, causing as a result a paralysis or a paresis.

Papilledema caused by intracranial pressure on the optic nerve may be homolateral, contralateral, or bilateral, according to whether this pressure is exerted above, below, or at the optic commissure. It is caused most commonly, probably, by cerebral abscess, meningitis, cerebellar abscess, and lateral-sinus thrombosis. Papilledema from one of these causes must be differentiated from that caused by nasal-accessory-sinus disease, as the treatment is, of course, radically different.

It can be readily understood that infection, traveling from the middle ear through the peritubal or other cells in a pneumatic petrous bone and eventually penetrating the thin wall of a terminal cell at or near the apex, will cause a localized extradural abscess at or near the gasserian ganglion where it lies in the trigeminal impression, and in the region of the posterior clinoid processes and the sphenoidal spine, which, in certain instances, with the petrosphenoidal ligaments, form the canal of Dorello through which the sixth nerve passes. The resultant pressure from the inflammatory reaction gives us the Gradenigo syndrome. White has shown, apparently, that an optic nerve that passes through a large optic foramen is not as susceptible to compression from accessory-sinus disease as when it fits snugly in its bony canal. Sears teaches us that an analogous condition may exist in regard to the sixth nerve; that in certain instances this Dorello's canal is large, and therefore less liable to compress the contained nerve, which accounts, in part, for the comparative rarity of this condition.

The sixth nerve, after its passage through Dorello's canal, where according to the size of the latter and its position therein, it may readily be compressed even by an inflammatory edema from infection transferred through the petrous cells, traverses the cavernous sinus in the outer walls of which are also the third, fourth, and fifth nerves. Thrombosis and infection of this sinus, then, readily influences all the extra-ocular nerves, causing isolated or combined palsies, according to circumstances. Hence, as aside from accessory-sinus disease or infection of the skin of the face, the cavernous sinus is most often infected from the lateral through the petrosal sinuses, the former may be said frequently to be the cause of these paralyses.

It has been established that thrombosis of the lateral sinus is prone to cause increased intracranial tension with resultant papillitis. Such a general increase of tension can otherwise exert pressure upon any or all of the extra-ocular nerves, causing various types of diplopia or deviation. Cerebral edema of otitic origin, the pressure of abscesses, extradural or intradural, serous or suppurative meningitis, may have the same result, but the sixth nerve is, perhaps, more susceptible to this encroachment than the others, due to its long and devious course from the pons to the orbit.

Toby has shown definitely by the use of a manometer in connection with lumbar puncture that the tension of the cerebrospinal fluid rises immediately and greatly if the jugulars are compressed, or if there is a thrombosis of the lateral

sinus. Eagleton reports a case of papillitis following ligation of the internal jugular where autopsy showed that the opposite sinus was but half normal size, thereby causing a complete venous stasis associated with internal hydrocephalus; and Ruttin observed six cases of papilledema, and three of abducens paralysis out of thirty cases of jugular ligation in sinus thrombosis. Sears deduces from these reports and from Cushing's studies that jugular ligation or sinus thrombosis can result in venous stasis with cerebral edema and increased intracranial tension, resulting in compression of the sixth nerve in Dorello's canal or in its course up the pons by the branches of the basilar artery.

It may be safely said that any otogenous intracranial infection may, by causing increase of tension or by causing extension of inflammation and edema to the petrous apex, cause ocular paralyses. An extradural abscess, therefore, may act in either way—by direct pressure, or extension of the inflammatory process inwards—and so may an abscess of the middle or the posterior fossæ. The extradural abscesses, as a rule, are direct extensions, through bone necrosis, from infection in the middle ear, mastoid antrum or cells, or cells in the petrous pyramid. The *modus operandi,* therefore, in all these complications, seems to be about the same.

Isolated palsy of the sixth, or abducens, nerve is much more common than in the case of the other nerves of the extra-ocular muscles. This is easily accounted for by its close relationship to such structures as the petrous pyramid and the cavernous sinus, which in turn are susceptible to otitic infection. The nerve pursues a long course at the base of the brain, during which it is exposed to compression, particularly where it passes through Dorello's canal. The compression, therefore, is apt to be localized to this one structure. If the pressure is exerted upon the intracerebral portion of the nerve, a conjugate palsy is produced, often associated with paralysis of the opposite internus muscle. Multiple palsies take place when the pathologic process is located near the sphenoidal fissure, so that the third and fourth, as well as the sixth may be involved, since in this region all of these nerves are closely grouped.

It can be readily seen that symptoms of compression of any of the ocular nerves in the presence of a suppurative otitis media should be regarded with concern. The mortality of such cases is relatively high and the cause of death, as a rule, is the meningitis or brain abscess responsible for the compression, or secondary to the initial infection.

SURGICAL INDICATIONS IN AFFECTIONS OF THE OCULAR NERVES FOLLOWING SUPPURATIVE OTITIS MEDIA AND ITS COMPLICATIONS

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Ocular-nerve involvement may, in certain cases, be the first symptom to point to intracranial extension of otologic disease; in others, it may be the final symptom in effecting diagnosis; and in either case, it may indicate the necessity for surgical procedure. Although the absence of any one or all symptoms of ocular-nerve affection does not prove the nonexistence of an otogenic intracranial infection, the signs of involvement of one or more of these nerves in connection with other symptoms may designate the necessity for operation, and rarely the point and nature of such procedure.

Naturally, the first affection of the ocular nerves to be considered in its relation to intracranial disease is papilledema, or optic neuritis. According to Eagleton,[1] "in considering the significance of the presence or absence of papilledema, the following factors must be recognized: (1) The presence of increased intracranial pressure. (2) Interference with the venous return circulation from the cranial cavity (sufficient to cause nerve-head changes. (3) Location of the lesion (whether or not it interferes with the cerebrospinal-fluid circulatory system). (4) Alteration in the composition of the fluid (contained within the piarachnoid prolongations of the cerebrospinal-fluid system around the optic nerve, into which the parenchymatous fluids of the optic papilla and nerve are discharged). (5) Induced 'stupeur arterielle' (due to an involvement of the periarterial sympathetic from the action of toxemia or trauma upon the central sympathetic system."

The frequency of the occurrence of optic neuritis, or papilledema, in otogenic intracranial disease bears directly on its value as a diagnostic symptom, as well as its importance for surgical indication. Dickie,[2] in a group of 34 cases of brain abscess, found it present in 26 cases. The condition was generally more marked on the affected side. Adson[3] reported the presence of choked disk in 9 cases of brain abscess out of 26. White[4] reports 58 per cent of optic-nerve changes in a series of 19 cerebellar abscesses, and 60 per cent in a series of 37 temporosphenoidal abscesses. Of his cases of meningitis, 43 per cent showed change of the nerve head. Optic-nerve disturbance was present in 40 per cent of his 60 cases of sinus thrombosis. Boot,[5] reviewing 73

cases diagnosed as brain abscess, noted that "among the eye symptoms are convergent strabismus, divergent strabismus, conjugate deviation of the eyes, conjunctival injection, exophthalmus, enlarged tortuous veins in the fundus, choked disk, and pain in the eyes. Inequality of the pupils was not present early, nor was lack of reaction to light and accommodation. These symptoms occurred late in the disease." Eagleton[6] states that "a moderate grade of papilledema is a frequent manifestation of cerebellar abscess." There are other reports in the literature giving smaller percentages of the occurrence of papilledema in these conditions, but the fact stands out that papilledema is one of the valuable diagnostic symptoms in intracranial disease of otitic origin.

After a careful study of the reports of a number of cases in which papilledema of high degree was noted, the writer feels that Eagleton[7] is correct in his statement that "intense choked disk may develop from an acute obstruction of the return circulation from the cranial cavity and retina, but the papilledema of brain abscess never is due to an obstruction of the vascular supply to the nerve head alone." That type of choked disk of considerable elevation which is found especially with tumor of the posterior cranial fossa has been noted at times in association with lateral-sinus thrombosis, and especially following ligation of the internal jugular vein in these cases. A number of cases illustrative of this have been recorded in the literature. Among others are those of Eagleton (*loc. cit.*), Auerbach and Alexander,[8] Bartels,[9] Friedenwald and Downey,[10] and Ruttin.[11]

One other phase of optic-nerve involvement is hemianopia resulting from affection of the optic radiations in temporosphenoidal abscess. The hemianopia may be simply a partial field defect for colors, or for form as well. This may vary from day to day, as in a case of the writer's, present one day and absent the next. However, this field loss may be constant. In any case, in conjunction with other symptoms, it is of invaluable localizing value in the question of temporosphenoidal abscess. Obviously, since it may vary from day to day, frequent perimetric examination of the fields must be made. Naturally, these will include both form and color.

Of the motor nerves of the eye, it is possible for one alone or a group in combination to be affected by the result of pyogenic disease of aural origin. Dickie,[12] in a study of 63 cases of brain abscess, states that "in the early irritative stages the pupils are contracted and active. When pressure symptoms begin to predominate, they tend to dilate and are sluggish in their reaction to light..... Macewen states that when the abscess is in the frontal or temporosphenoidal lobe, the pupils may be either small or large, but especially sluggish. Sometimes the only difference is that the pupil on the affected side is more sluggish. In diffuse meningitis, the pupils are usually equal and contracted till a late stage, when they dilate..... Paralysis of the cranial nerves is more often due to basal meningitis than to brain abscess. Paralysis of the sixth nerve on the affected side occurs not infrequently as a result of localized pachymeningitis at the apex of the petrous bone with headache and a few other symptoms, and this is known as the syndrome of Gradenigo. It is not usually fatal but only transitory."

Eagleton[13] expresses the opinion that neither ocular paralysis nor third-nerve paralysis is of any localizing value whatever, but that the latter is of much more value than a sixth-nerve paralysis as a sign of cerebral suppuration, although both are of great value as symptoms of transmitted intracranial pressure.

Of great interest and importance in otology are affections of the abducens due to disease either of the nerve trunk itself or its nucleus, as well as the indirect influence of disorders of the labyrinthine end organs, the nuclei of the cerebellum and the medulla, transmitted to the sixth nucleus by way of the posterior longitudinal bundle, which may itself be affected.

Supranuclear or nuclear disease of the sixth nerve induce a very different form of reaction from that of the nerve trunk. Affection of the nerve trunk itself from the nucleus to its ending peripherally in the muscle produces a paresis or paralysis of the external rectus of the homolateral side. On the other hand, destructive nuclear disease induces a deficiency, partial or total, of conjugate lateral movement. This paralysis or paresis of conjugate lateral movement may arise also from a supranuclear lesion.

In otogenic suppuration, disturbance of conjugate lateral movement but rarely results from maladies of the nerve centers or fiber tracts caudad to the nucleus. Affection of these parts results usually in spontaneous rhythmic movements of associated eye muscles, varying in character, rapidity, and amplitude. The spontaneous ocular movements developed thereby are usually rotatory or rotatory and horizontal combined. Much less frequent is the observation of vertical or diagonal rhythmic rotation of the eyes. Failure to elicit ocular movements by rotatory, caloric, galvanic, or fistula tests of the labyrinth is just as important in surgical diagnosis as their presence spontaneously.

In isolated palsies of the extra-ocular nerves complicating aural disease, naturally the sixth nerve is more often attacked, since its position at the apex of the petrous pyramid lying sometimes against the sphenoidal spine of the petrous bone renders it particularly susceptible to direct attack, and its long and exposed course at the base of the brain makes possible varying opportunities for indirect involvement. Although isolated paralysis of the sixth nerve comprises more than one third of all such palsies involving the extra-ocular muscles, it is relatively rare as a complication of otitic disease.

Koellner,[14] in a group of 250 cases of abducens paralysis, found 2 per cent of the isolated palsies and 6 per cent of those in combination with paralysis of other nerves to be due to aural suppuration. However, a review of the literature, especially American, shows a constant increase in the number of cases of such palsies reported, while personal questioning of other otologists by the writer has brought to light a considerable number of these cases, as yet unreported.

With these references to the occurrence and importance of affections of the various ocular nerves complicating otogenic infection, we come to the question of their value in assisting one to determine whether or not surgical intervention is necessary, and, if necessary, the point and nature of the operation. It is assumed, of course, that all other etiologic factors which enter into the causation of these affections have, so far as possible, been excluded, and that the various conditions to be considered are complications of suppurative disease of the temporal bone.

Papilledema, or choked disk, in brain abscess, meningitis, and sinus thrombosis, when associated with brain abscess, is usually of moderate degree, but it can be of great value in surgical diagnosis, when it becomes the final symptom of a group which make diagnosis of the condition possible. By this time, it is probable that the original focus of infection will have been exenterated, so that the further indication is to expose and explore the brain.

It is possible, however, that the first symptom of intracranial extension may be shown by a papillitis, again an indication, at times, for uncovering of the dura and sinus. Optic neuritis may also be present in temporal-bone infection where no surgery has as yet been done. In a chronic suppurative otitis media, this may show (and probably other symptoms will verify it) the need of radical intervention which may result in uncovering an unsuspected extradural abscess.

In lateral-sinus thrombosis, the presence of papilledema may be the first symptom to point to the necessity for uncovering and examining the sinus. It is in lateral-sinus thrombosis, moreover, that choked disk of considerable degree may appear, and this more frequently after ligation of the internal jugular vein. This extreme papilledema does not arise rapidly, but comes on slowly for several weeks after the ligation. One should expect, after wide exposure of the lateral sinus, the tendency toward a reduction rather than an increase in the papilledema, but such is not the case. The visual end of these cases, when unoperated, is deplorable, for after final clearing of the choked disk, visual acuity is much impaired. Here we have a very definite and urgent indication for surgery. A temporal decompression of generous proportion must be done, and that promptly.

The most tragic picture of ocular involvement in sinus thrombosis is that of a fully developed case of cavernous-sinus thrombosis. Here we see edema of the lids and conjunctiva, and proptosis of the bulb, which is almost fixed. The eye-ground picture is that of tremendously distended veins. Gracey[15] reported a case which he watched develop, and at no time was there involvement of the retinal veins. When diagnosis of cavernous-sinus thrombosis is made early, and the original focus of infection has been thoroughly removed, Eagleton suggests ligation of the common carotid of the same side, in order to put the contents of the sinus at rest from the pulsation of the internal carotid artery.

A final symptom of optic-nerve involvement may be mentioned. Hemianopia, or field defect for color or form or both, varying from day to day, or at times found constant, is a most valuable localizing symptom in abscess of the temporsphenoidal lobe. Its value is especially enhanced when present in temporal-lobe abscess affecting the right side. In conjunction with other symptoms, this indicates immediate exposure and exploration of this part of the brain.

The importance of involvement of the motor nerves of the eye in surgical diagnosis of certain conditions is no less important than that of the optic nerve in others. Spontaneous rhythmic ocular movements in the form of vestibular nystagmus is of cardinal importance in diagnosis of labyrinthine or cerebellar disease and differentiation between them. Nystagmus arising in acute suppurative labyrinthitis is sudden in onset, may be of large amplitude, usually of mixed type, rotatory and horizontal, and is present in any position of the eyes. The nystagmus gradually lessens in degree and amplitude, and eventually ceases. If frequent tests of the laby-

rinthine function are made until, after a few days, no nystagmic movement can be excited artificially either by rotation, caloric, or fistula tests, evidencing a destruction by suppurative disease of the static labyrinth, and hearing tests show the cochlear labyrinth to be dead, then the time has come to open and drain the labyrinth by some one of the various methods.

In cerebellar disease, spontaneous ocular movement is distinctly different from labyrinthine. It is not constant in character, may vary from day to day, persists longer, and has a tendency to increase. The diagnostic value of nystagmus in cerebellar disease depends upon its great variance from that due to suppurative destruction of the labyrinth, and for this reason it gives, at times, indication of the presence of a cerebellar affection and the necessity for exploration of the cerebellar fossa.

An interesting and significant complication of cerebellar abscess, when observed, is lateral deviation of the eyes, which, according to Eagleton, generally occurs when compression or destruction is sufficient to cause an abolition of the cerebral control. This author is of the opinion that compression sufficient to cause coma and lateral deviation is much more easily induced in cerebellar than in cerebral abscess. When an otitis media is the primary focus of a brain abscess, the appearance of a lateral deviation of the eyes should be regarded as evidence that the posterior fossa is the site of the infection, since an adjacent temporosphenoidal-lobe abscess cannot cause a spontaneous lateral deviation of the eyes.[16] Obviously, under the conditions described, this ocular deviation in the presence of other symptoms of abscess would suggest search of the cerebellum.

Mention has already been made of isolated paralysis of the abducens, and the greater frequency of its occurrence noted. In 1904, and again in 1907, the association of paralysis of the sixth nerve complicating suppurative otitis media, with trigeminal neuralgia of a severe type, was pointed out by Gradenigo.[17] Since then, a considerable number of such cases have been reported in many publications; indeed, in a search of the world's literature the writer found that case reports and discussions of abducens paralysis of this form overshadowed by far that of all other extra-ocular palsies.

When, after ruling out all other etiologic factors in the causation of sixth-nerve palsy, such as syphilis and tabes (the most frequent cause) and disease of the paranasal cells (especially), a diagnosis of otogenic paralysis of the abducens has been made, it marks then an intracranial complication arising from direct or indirect propagation of the original purulent focus in the temporal bone. The infection in the temporal bone may vary from an apparently mild suppurative otitis media to a destructive bone process involving the mastoid or the petrous pyramid, or both, including at times extension to the squama; while the intracranial involvement may include a circumscribed inflammatory reaction of the dura at the apex of the petrous pyramid, thrombosis of the various intracranial sinuses, including the cavernous, cerebral or cerebellar abscess, and pachymeningitis or serous meningitis, with a not infrequent lethal end through a fulminating suppurative meningitis.

There has been considerable discussion of the surgical significance of the sixth-nerve palsy in these cases. Opinions concerning the necessity or the time for operative interference differ greatly.

In an analysis of 172 cases of otogenic abducens paralysis, the writer found the following operative procedures recorded: no operation whatever, 7 times; simple incision or repeated incisions of the tympanic membrane, 9 times; simple mastoidectomy, 111 times; radical mastoid operation, 44 times; secondary operations, 30 times; operations on the cranial sinuses, 19 times; ligation and resection of the internal jugular vein, 16 times; exploration of the brain, 16 times; exposure of the dura, 37 times; and exenteration of the labyrinth, once.

Operative findings noted were: the presence of pus in the mastoid in considerable quantity, with little or no evidence of granulation tissue or edematous mucous membrane, 55 times; the presence of largely developed edematous mucous membrane or granulation tissue in the mastoid cells, with very little or no pus, 48 times; bone destruction of greater or less degree, 51 times; sinus thrombosis, 27 times; brain abscess, 27 times (17 extradural, and 10 temporal-lobe and cerebellar).

Of the 172 cases, 31 resulted in death, a mortality of 18 per cent. Four of the 7 cases which received no operative treatment whatever ended fatally, or 57 per cent.

Based on these records, what conclusions can be drawn as to the indications for operation? It seems fair to assume that in the presence of a severe suppurative otitis media, complicated by trigeminal neuralgia of persistent type, and associated with sixth-nerve palsy, a simple mastoidectomy should be done. Should this provide free drainage for the purulent flow, should the pain cease, the external canal become dry, and the tympanic membrane begin to clear, and no other

untoward symptoms be present, it would seem safe to await other indications. However, should the mastoid be found unaffected, or its cells show simply edematous mucous membrane without pus, and after opening the antrum and sounding the aditus to the tympanum, the mastoid wound remains free from secretion while large quantities of pus discharge by way of the external canal and continue to do so, there seems reason to advise the radical procedure, with attention to all cells to be found, especially those toward and in the petrous pyramid.

The experience of the writer in 3 cases of this type leads to the thought that, under similar circumstances, the surgery in each case would be decidedly more extended. Although all three cases made a final recovery, one in which repeated incisions of the tympanic membrane provided sufficient drainage, and two on which simple mastoidectomy was done, in the first case simple mastoidectomy was indicated, and in the last two radical mastoidectomy should have been performed.

Cushing observed several palsies of this type, associated with papilledema and increased spinal-fluid pressure, which he ascribed to cerebral edema or the meningitis serosa of Quincke. To him, decompression seemed indicated and was carried out, recovery resulting in all cases.

In the series reported, ligation and resection of the internal jugular vein was done 16 times. Ten of these cases developed after the operation paralysis of the sixth nerve, and in all of the cases, where changes of the papilla were recorded, there was well-marked papilledema. Here again the question of cerebral edema or meningitis serosa of considerable degree must be reckoned with, and based on the results of reported cases, decompression would be indicated. Three of this series recovered without treatment, nature having provided free drainage by spontaneous perforation of the membrane. Two of these had rather a stormy time, lasting a considerable period. One recovered from all symptoms rapidly. The history of the first two indicated at least a simple mastoidectomy as a measure of protection. Nine cases recovered after single or multiple incisions of the drumhead. In all, free pus discharge was present. Again, the detailed histories of some of these argue decidedly in favor of a mastoidectomy.

What of those unusual forms in which abducens palsy develops several weeks after the middle-ear process has healed and the patient is apparently well? The onset of gasserian pain and an associated sixth-nerve palsy at this time, other etiologic factors having been excluded, seems to point clearly to a slow and insidious propagation of the infection from the middle-ear cavity to the pneumatic cells of the petrous pyramid, even to the apex, where at times a single large cell may be found, over which lies the gasserian ganglion in the impressio trigemini, and posterior and above is placed the sixth nerve where it passes through Dorello's canal. Surely one should not do less than open the pneumatic spaces of the mastoid and search for extension of cells to the petrous bone. In this connection, it is noteworthy that in this series the temporal bone was of the pneumatic type, many times with very large pneumatic cells, in more than 70 per cent.

The same reasoning applies to a variation of the form just discussed; that is, where the middle ear becomes reinfected from the apical cells weeks after the primary otitis has healed (this happened apparently in one of the writer's cases), and the gasserian pain and sixth nerve paralysis come in evidence at the same time or earlier.

There are many other phases of this subject which cannot be discussed at this time. In surgical diagnosis, so many factors play a part that an affection of one or more of the ocular nerves alone is not of sufficient importance to establish diagnosis or to indicate treatment. However, in making up the complete clinical picture of these conditions, where every symptom must be noted and its variation from day to day set down in order that its exact value may appear in the final decision, ocular signs and symptoms have an important place.

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ABSTRACT OF DISCUSSION

Of Papers by Drs. Coates and Sears

Wells P. Eagleton, M.D. (Newark, N. J.): It is very difficult to diagnose an isolated paralysis of the ocular muscle, especially if it has been present a few days. Diagnosis of sixth-nerve paralysis is very simple, but after paralysis of the third nerve has been present for a time, it is hard to tell what part is involved. The following practical points have been of value to me:

(1) The sensory part of the third nerve, which supplies the pupil, is much more easily affected by intra-

cranial pressure than the motor portion, with the result that it is common to find unequal pupils or partially dilated pupils in any form of intracranial pressure.

(2) It has not been my experience to find that a papilledema has any localizing value. It simply shows whether or not there is pressure, whether or not there is venous stasis. When stasis occurs suddenly, it produces great dilatation of the veins with papilledema. We should abandon the different terms, *choked disk, optic neuritis,* and *papilledema,* for even the ophthalmologist cannot differentiate between them clinically with absolute certainty.

The impression that the Gradenigo syndrome is a simple thing has done a great deal of harm. As Dr. Sears has said, 18 per cent of the total number of cases have died. This indicates that there is more than a simple mastoid condition present. The only means of judging whether the Gradenigo syndrome will be relieved by mastoid operation alone is an x-ray of the condition of the cells, and this is of slight value. In the presence of a pneumonic mastoid, simple drainage may be all that is necessary to relieve the Gradenigo syndrome, but when this syndrome is coupled with a diploic mastoid the outcome is very uncertain.

(3) We do not realize as we should the great frequency with which the cavernous sinus is involved in otitic infection, because so often patients die of meningitis without showing any symptoms suggestive of cavernous-sinus thrombosis. Brunner has recently shown that infections into the cavernous sinus frequently travel through the internal carotid artery venous plexus. If the infection enters the sinus from behind, there is no papilledema or chemosis, but if the infection gets outside the sinus into the coat, it may then involve the ocular motor nerves, and produce third, fourth, and sixth-nerve paralysis from the edema surrounding the sinus. Hutchinson has reported that edema around the cavernous sinus involves the ocular nerves. Also, some patients develop pain in the teeth and behind the eye, which shows a superior petrosal thrombophlebitis that probably involves the cavernous sinus.

In the ordinary case of serous meningitis with an external ocular paralysis of the sixth nerve, how is it possible to determine whether or not to open the basal cisterna?

A girl who had had a mastoidectomy done by a very competent man began having pain behind her eye and suddenly developed an external ocular paralysis. A lumbar puncture disclosed a high cell count, and her temperature rose to 101°. Diagnosis was made of a localized meningitis of the apex of the petrous portion of the temporal bone, and operation advised. The floor of the middle fossa was opened and a little nick made into the basal cisterna, permitting a tremendous rush of infected fluid. The girl promptly recovered, and has been well since.

At almost the same time, a boy was seen who had a mastoid, some pain, vomiting once or twice, followed by sudden development of an external ocular paralysis and papilledema, though he did not have a very high cell count, and no microörganisms were found. Lumbar puncture seemed to have an effect, because the papilledema decreased and the external ocular paralysis disappeared. Because of the experience with the other case, operation was advised in order to prevent a generalized meningitis and death. As he looked too well to be operated upon, he was taken to New York, where he was examined by a good man who said he would not operate just then—just watch him, and perhaps drain an abscess. The boy recovered, and has been well since.

I, therefore, do not know when to operate in these cases, except by taking the picture as a whole. The ocular paralysis itself has not so much localizing value as one would think.

Five Case Reports*

ACUTE INTESTINAL OBSTRUCTION BY A GALL STONE

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The patient involved in this case report is Miss C. J. O., aged 51. She has always done housework. Her teeth and gums have been infected for many years. She had had typical attacks of biliary colic for eight years. I saw her during one of these attacks four months before her present trouble began. She refused operation at that time. After that attack she had fullness and heaviness after meals, but was well otherwise.

Her present illness began March 17, 1924, with cramp, nausea, and constipation. She was not alarmed because her pains were intermittent, and not as severe as her attacks of biliary colic. On March 19, 1924, I saw her with her family physician. At that time she had cramp and was vomiting. Loops of small intestine were seen and easily palpated. Knowing her previous history, I mentioned the possibility of gall-stone ileus.

She was taken to the Mercy Hospital, and laparotomy was done at once. Novocain was used, and a low right-rectus incision was made. Many distended loops and one collapsed loop of small intestine were seen. Upon delivering the collapsed portion, a gall-stone the size of a large hickory nut was found in the lower third of the ileum. The stone was turned out, and the incision closed, as further search revealed no more stones. The gall bladder was densely buried in adhesions. Routine closure was followed by a smooth recovery.

On April 16, 1924, under gas anesthesia, the gall bladder and ducts were exposed. The gall bladder and duodenum were firmly adherent. The gall bladder was opened, and several large stones were removed. No stones were palpated in the ducts. No opening was seen between the gall bladder and duodenum. The gall bladder was drained because cholecystotomy was deemed a little more suitable in this particular patient. After operation, bile and duodenal fluid drained. All drainage ceased, and the incision remained closed after the sixteenth day. The patient is in good health and goes about her work every day.

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

In the past ten years, approximately thirty-five articles on this subject have been published. In each contribution, one to five case histories have been described. In a review of my experience and a study of these articles, a few points worth mentioning have been selected: The mortality, in these cases, has been high because early diagnosis was not made. The condition is relatively frequent, and the prognosis, with early diagnosis, is excellent. A little liquid and gas always pass the stone until it is low in the ileum. The stone comes to rest in the terminal ileum because that part has the smallest lumen. One or more of these patients failed to recover because two stones were present and one was overlooked at operation. A fecal fistula developed in one patient because the stone was removed through an opening where pressure ulceration existed. Search for the stone is made simple by lifting and following the collapsed loops. The lumen is preserved by an incision parallel with the long axis of the bowel and a transverse closure. Local anesthesia is desirable in many cases of intestinal obstruction.

REPEATED CESAREAN SECTION IN SEPTATE UTERUS

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A septate uterus (uterus bicornis septus) as an indication for delivery by Cesarean section is by no means unheard of. Nevertheless it is still uncommon enough to warrant mention, especially when the condition calls for a repetition of the operation at a later confinement.

Mrs. A., a robust, ruddy-faced Greek woman of 30 years, was referred to me for delivery in September, 1923, from the prenatal clinic of the Babies' Hospital of Philadelphia. According to the clinic history, she had had two miscarriages at about three months in 1911 and 1920, for which no cause was assigned, and no full term pregnancy. Her measurements were large, her urine and Wassermann tests negative, and her highest blood pressure reading was systolic 138, diastolic 78. The presentation was vertex, R. O. P. She had menstruated last on December 1, 1922.

The patient went into labor September 19, some ten days after the expected date of confinement. Vaginal examination showed a septum dividing the cervix and reaching nearly half way down the vagina. The head was not deeply engaged, and the cervix admitted two fingers. Remembering cases in which a septum in the uterus had been no bar to the normal progress of labor, I did not anticipate much trouble, since the pelvis was roomy and the child not large. Moreover, the vaginal wall was lax and thrown into such folds that the septum had thus far escaped notice. The woman, however, blandly informed me that the doctor who had attended her at the time of her last miscarriage had told her that she was "made wrong inside," and could never have a baby. After several hours of active labor pains there was no further dilatation of the cervix nor deeper descent of the head.

Cesarean section was therefore decided on, and the patient was admitted at three o'clock the next morning to the Woman's Hospital, where a classical high operation was performed. The opening of the uterus and the extraction of the child were complicated by the septum, which chanced to lie just beneath the usual median incision and was nearly an inch thick. The child was lying in the right side of the uterus, which was much smaller than the left, and it was flexed and doubled on itself as if cramped by the small size of its quarters. Although at full term, it weighed only 2,330 grams (about 5 lbs., 2 oz.). One would have said that it had not had room to grow. It made good progress after birth, however, and went out of the hospital at the end of two weeks, having gained 170 grams (nearly six ounces). The mother made an uneventful recovery.

Encouraged by her experience, the patient promptly became pregnant again, and went into labor at term, September 5, 1924, not quite a year after her previous confinement. After a few hours of unavailing first-stage pains, she was again sent to the Woman's Hospital for operation early the next morning. The classical cesarean section was again done, complicated only by some adhesions from the previous operation, which had to be broken up before the uterus could be opened. This time we made the incision well to one side of the median line, and thus avoided the septum. The child lay in the left compartment, which was much larger than the right, and had allowed it to grow to a good size. The weight was 3,490 grams (7 lbs., 11 oz.). The mother had some slight elevation of temperature for a few days, but went home on the fourteenth day in fine condition. The baby had gained 300 grams over its birth weight.

This case was interesting to me first of all because the septum so interfered with the dilatation of the cervix that cesarean section was necessary; and next, because the fetus lay in the right half of the uterus at the first pregnancy, and in the left at the second. For the benefit of those who persist in believing that a boy always comes from the right ovary, it might be added

that the baby in the right compartment was a girl, and the one in the left a boy. As a practical point, the obstruction offered by the septum to the opening of the uterus in the first operation was worth remembering, and the choice of a line of incision which will avoid the septum is really important.

The woman and her two children are still in excellent condition, although the first-born is still undersized, and has been almost outstripped by her younger brother.

1200 Spruce Street.

UNILATERAL FUSED KIDNEY WITH UTEROVESICAL FISTULA*

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Two years ago, at the 1922 session of the American Urological Association, this case was reported in the discussion of renal anomalies, and a few of the slides were shown at that time. It seemed to us that the condition was rare enough to warrant its reporting in detail, so that the case could be placed on record. Pyelography and the x-ray have placed such conditions in the discoverable class during life, and they are becoming more readily reportable yearly. Heretofore, the autopsy table and the occasional operation brought them to light. This case is all the more remarkable because of the fact that there were no objective or subjective symptoms of the condition. It was unearthed by accident during a routine study of the urine from the pelvis of the kidney in the postpartum woman on the obstetrical service of Dr. T. M. M. Flynn, at St. Vincent's Hospital, Erie, Pa.



Fig. 1. Showing x-ray catheters in the two normally situated ureters before injection of the pyelographic medium.



Fig. 2. Showing the pelvis of the right kidney on the left side, and under the pelvis of the left kidney.

Two days after delivery she was examined for the first time. The cystoscopic examination showed that the mucosa of the entire bladder was congested, and that there were apparently three ureters. Two of these occupied the normal positions in the bladder. The third was about one centimeter to the midline, and placed at the edge of the interureteral fold. The first two excreted dye normally, and urine was easily collected from them. X-ray catheters were passed into them, and pictures were taken before and after injection of the pyelographic medium. Figure 1

*From the obstetrical and urological departments of St. Vincent's Hospital, Erie, Pa.

shows the picture before injection. It will be seen that the catheter crosses from the right ureter over the sacro-iliac joint to a position near the left ureter and under it. Figure 2 shows the pelvis of the right kidney on the left side, and under the pelvis of the left kidney, which apparently is rotated. The diagnosis was unilateral fused kidney.

We were still much exercised about the third ureter, and two days later the patient was again cystoscoped, and the left ureter and extra right ureter were catheterized. Figure 3 shows the result. A diagnosis was then made of unilateral fused kidney and extra pelvic kidney.

Several days later, all three ureters were catheterized, with the result seen in Figure 4, which shows the left pelvis well outlined, evidences of an incomplete filling of the misplaced right pelvis just under it, and a large peculiar-looking shadow in the pelvis. As the patient was



Fig. 3. Showing the result of catheterization of the left ureter and extra right ureter.



Fig. 4. Catheterization of all three ureters, showing the left pelvis well outlined, evidences of an incomplete filling of the misplaced right pelvis just under it, and a peculiar shadow in the bony pelvis.

reasonably thin, an attempt was made to palpate this pelvic kidney, but all that could be made out was the usual pelvic contents. The diagnosis was not altered, but notes were made that the injected pelvic kidney was hydronephrotic, and that therefore it did not function nor could it be felt.

Our curiosity was thoroughly aroused as a result of all these examinations, and although the patient was symptomless and not disturbed, she again consented to go through the ordeal of cystoscopy.

At this last examination, it was decided to pass the catheter as far as it would go without causing pain or discomfort. This third ureter and the pelvic hydronephrotic kidney was the one that mystified us. The catheter readily passed through the third ureter at the meatus, and easily fed through, and, to our astonishment, emerged from the vagina. A bivalve speculum was introduced, and the catheter was seen emerg-

ing from the cervical canal of the uterus. A picture was then taken, and figure 5 resulted. The hydronephrotic pelvic kidney and the third ureter had become the body of the uterus and



Fig. 5. Showing the catheter passing completely through the extra ureter, and emerging from the vagina.

the uterovesical fistula. (Compare figure five with figure four). The final diagnosis was unilateral fused kidney, with uterovesical fistula.

501 Commerce Building.

PANCREATIC CYST

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A review of the literature indicates that pancreatic cysts are comparatively infrequent, that correct preoperative diagnosis is difficult and seldom made, and that they usually follow severe abdominal trauma or chronic pancreatitis. Prolonged drainage is indicated to avoid recurrence unless the entire cyst is enucleated or excised at the time of operation.

Mrs. A. H., aged 61, of American birth and a housekeeper by occupation, entered the Presbyterian Hospital, Pittsburgh, Pa., April 26, 1923, on the medical service of Dr. Barach. Her chief complaints were enlargement of the abdomen, loss of eyesight, and loss of sensation and control of feet.

In August, 1922, the patient noticed a tumor in the lower abdomen about the size of an infant's head, which increased to three times this size in the next four months. For the past four months the enlargement had been slowly progressive, until it practically filled the entire abdomen and pelvis at the time of hospital admission.

Four years previously, while the patient had sores on both feet, she was discovered to have diabetes mellitus. She had been treated by her family physician by diet, but the foot lesions returned at irregular intervals, associated with failing vision, loss of sensation, and numbness of the upper and lower extremities. The patient, during the preceding eight months, had noticed loss of subcutaneous tissue without loss in weight, as this had been maintained by the increase in size of the tumor.

Physical examination showed a rather poorly nourished adult female, rather older than her years. The skin was dry and scaly. The left eye showed a completely developed cataract, and there was an opacity of the right lens. The heart and lungs were negative. The abdomen was very much enlarged, with a smooth, round, tense cystic mass, extending from the xiphoid process to the pubes. The tumor was slightly movable and tender. On pelvic examination, it was impossible to outline the fundus or adnexa.

Examination of the urine showed a specific gravity of 1,020, 4 per cent of sugar, and was negative for acetone and diacetic acid. The blood Wassermann was negative. There were 222 mgm. of blood sugar per 100 cm. of blood, and 32 mgm. of blood urea. After two weeks of preoperative treatment by diet and insulin, which made the urine sugar free, under the direction of Dr. Barach I was asked to see this patient. Operation for exploration of the cystic tumor was advised. The preoperative diagnosis was diabetes mellitus, and ovarian cyst.

Operation was performed May 7, 1923, under nitrous-oxid-ether anesthesia, through a midline incision. The cyst, which filled the entire abdomen, was found to be attached high up in the lumbar region, with many adhesions between the omentum, small intestines, and transverse colon. The ovaries, tubes, and uterus were atrophic. The cyst presented between the greater curvature of the stomach and the colon.

It was impossible to remove the cyst *in toto*, and an incision 4 cm. was then made into it, and

eleven pounds and ten ounces of thick greenish purulent fluid was removed. The wall of the cyst was then sutured with No.-1 chromic catgut to the anterior abdominal wall, and two medium-sized drainage tubes were inserted. The operative reaction was mild, and in four days the temperature was normal.

The patient was discharged from the hospital 27 days after operation, with instructions to her family physician to keep the drainage tubes in place for several months. Four months later she returned to the hospital with subcutaneous abscess of the right arm, as a result of the hypodermic injection of insulin. At this time the drainage from the incision had practically ceased. The tubes were then gradually shortened until they were entirely removed in ten days. The patient was discharged, with the incision completely healed, no evidence of return of the tumor, and in good general condition.

In May, 1924, one year after her primary operation, the patient was admitted to the Columbia Hospital, Pittsburgh, Pa., where she was operated upon by Dr. Edward Stieren for bilateral diabetic cataract. At this time she had no abdominal complaints, and there was no evidence of recurrence of the tumor.

August 18, 1925, two years and three months after operation, the patient's daughter reported to me, stating that her mother's general condition and strength were good. She weighed 167 pounds, there was no evidence of recurrence of the tumor, and the diabetes was controlled by 10 units of insulin daily.

This case is of interest because of the incorrect preoperative diagnosis, the association with diabetes mellitus, the uncomplicated convalescence, and the excellent permanent result.

PERFORATED ULCER OF THE DUODENUM, WITH DUODENAL FISTULA

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PITTSBURGH, PA.

In a review of the literature, only about seventy reported cases of external duodenal fistula were found, although many unreported cases must have occurred. Pannet (1914) stated that "so far as could be ascertained from the writings of the past ten years, a duodenal fistula never healed without surgical aid, and, if left, is invariably fatal and death may be exceedingly rapid." The spontaneous closure of such a fistula is an infrequent occurrence, and the following case is reported for this reason.

The patient, a man aged 63, a clerk, was admitted to the Allegheny General Hospital on March 31, 1923, and discharged May 10, 1923. He gave a history of pain in the epigastrium for the previous year, occurring one to two hours after eating, relieved by more food, but with no nausea, vomiting, or night hunger pains. The attacks were always worse following frequent alcoholic sprees. Twenty-nine hours before admission to the hospital, his family physician was called to see the patient, who had been on a spree for several days and was then intoxicated, but complaining of severe abdominal pain with some rigidity of the abdomen and vomiting. Because of the patient's restlessness and condition of alcoholism the exact pathology present could not be determined, and he was given an opiate, which relieved him. The physician was not called again until the following evening, when the patient was referred to the hospital.

On admission at 7 p. m., he was still complaining of severe pain. He was not in a marked state of shock, the temperature was 98, the pulse 110 and of good quality. Examination, except of the abdomen, was of no importance. There was no localization of abdominal pain. There was considerable distention of the entire abdomen, more marked below the midline. This was very resonant, with possible dullness in the flanks. There was some generalized tenderness, and some rigidity, about equal in both right and left lower quadrants, and less marked in the upper quadrants. Liver dullness was absent. No palpable masses were present, and very slight peristalsis. Examination was negative otherwise. Laboratory examinations were negative. A high enema was given with no result. A diagnosis was made of perforated ulcer of the duodenum, or acute obstruction of the bowel—the latter based on the distention of the abdomen and tympany.

Operation was done immediately. Under nitrous-oxid anesthesia, an upper right-rectus incision was made. On opening the abdomen, a large amount of odorless gas and considerable grayish flocculent fluid was expelled. There was only moderate distention of the intestines. A perforation was found to have occurred in the first portion of the duodenum through an old calloused ulcer, with much thickening of the edge of the perforation. This was closed with two layers of No.-1 chromic catgut, and the gastrohepatic omentum was sutured over it. Because of the age of the perforation (29 hours), a tube was inserted both in Morrison's pouch through a right stab incision, and in the pelvis.

The postoperative course of the case was very stormy for several days, but with gradual im-

provement, and by the sixth day both tubes had been removed. On April 9th, dressings on the right side were found saturated with discharge through the stab wound in the flank, and liquids taken by mouth drained very quickly through this opening. It was evident that a duodenal fistula had occurred. During the next 24 hours, the patient voided only 14 ounces of urine, drainage continued through the fistula, and the skin of the right side and back became very much irritated and excoriated. Except for fluid given under the skin and by bowel, the patient would have retained little liquid, and even with this he soon began to show the result of loss of fluid, as well as loss of sleep from the constant irritation of the discharging fistula.

April 11th a duodenal tube was passed by mouth, and feeding through this was started. At the same time, thick pads of gauze were strapped tightly with adhesive over the opening on the right side. This reduced the discharge (although it was still considerable in amount), and there was an increase in the amount of urine.

April 13th there was still much discharge, and the skin was red and digested. A small quantity of barium was injected through the duodenal tube. The x-ray showed it curled up in the stomach, and it was removed. There was no increase in the discharge following its removal.

April 21st, with the right side kept securely strapped over gauze pads on the external opening, there was a gradual decrease in the amount of the discharge, although, three days previously, coloring matter given by mouth slightly stained the dressings.

April 26th there was no discharge from the fistulous tract, which was entirely closed.

May 10th the patient left the hospital, having made a complete recovery with the exception of some gastric distress which persisted over several months.

That an external duodenal fistula is an extremely serious condition is attested by a mortality of from 50 to 70 per cent. Many nonsurgical measures have been used in an attempt to cure the condition. The passage of a duodenal tube past the opening in the duodenum, and feedings through this have been successful in some cases. Frequent washing away of the discharge has helped in preventing excoriation of the skin, and continuous suction with catheters in the fistula has been used with success in a number of cases, although this method may have to be combined with a jejunostomy to provide fluid and nourishment. Of the surgical procedures employed, probably jejunostomy is the operation of choice, combined with nonsurgical treatment.

ABSTRACT OF DISCUSSION

Of Case Reports

HERBERT B. GIBBY, M.D. (Wilkes-Barre, Pa.): A patient was operated upon for gall stones, and four days after cholecystectomy a duodenal fistula developed in the wound, and there was an almost continuous discharge of the duodenal contents, which caused a marked irritation of the skin and a very depressing effect upon the patient. She grew rapidly weaker, and within a couple of days her condition was alarming. The wound was opened, and the injury to the duodenum resulting from the previous operation was very carefully closed with linen sutures. Improvement was marked for a few days, when the fistula reopened, and in two days the patient had become so weak that her condition seemed desperate. The abdomen was opened for the third time, but it was found impossible to close the fistula, as the intestine about the wound was extremely friable and the sutures would not hold. Accordingly, a portion of the omentum was drawn up and sutured into the fistulous opening. The result was not a complete closure, a slight discharge of the duodenal contents persisting for several days. This gradually decreased, and stopped entirely in about a week, and the patient made a good recovery. The use of omentum in this class of cases is a very valuable procedure, and had it been done at the first operation, the second would no doubt have been avoided.

W. L. ESTES, SR., M.D. (Bethlehem, Pa.): Septate uteri are not very common, although I have seen a number of them. In one case, after about 48 hours of labor, and all sorts of dilatations and manipulations by the physicians in charge, the patient came to me with the diagnosis of an extra-uterine pregnancy. A careful examination revealed a septate vagina, cervix, and uterus. The woman was exhausted and septic, but the child was removed from the impregnated side of the uterus by cesarean section. After a very slow convalescence, the patient recovered. This case is related to emphasize the importance of careful examination and proper differentiation in all cases of difficult and delayed labor.

I have had two cases of obstruction produced by gall stones, the first similar to that reported by Dr. Davis, and the other one in which the stone had escaped from the gall bladder and made its way into the intestines, where it had lodged in the upper part of the ileum and produced a complete obstruction on account of its size and weight, resulting in strangulation. The patient recovered after this migratory stone had been removed.

CHARLES LONG, M.D. (Wilkes-Barre, Pa.): Authorities state that a case of carcinoma, tuberculosis, and syphilis combined has never been reported. However, such a case was admitted to the Wilkes-Barre City Hospital. I treated this patient for tuberculosis alone, and there was a cavity in the lung. There was a history of carcinoma of the uterus, for which hysterectomy had been performed, and also a 4-plus Wassermann. The patient died from a sudden hemorrhage, and postmortem showed that death was caused by an aneurysm of the arch of the aorta which has ruptured through into the trachea.

A moment's reflection will make it obvious that a number of cardiorenal affections, which incapacitate and throw on the industrial scrap heap large numbers of young persons, and which prematurely shorten lives, have their origin in the acute communicable diseases, especially the exanthemata.

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EDITORIALS

THE LAENNEC CENTENARY

René Théophile Hyacinthe Laënnec was born February 17, 1781, and died of pulmonary tuberculosis August 13, 1826. Thus may be recorded the life cycle of an individual. The history of Laënnec, however, invites more detailed record because of the great accomplishments of the man and physician, in spite of many handicaps which conspired to prevent his notable achievements.

His mother died when he was only six years old, which resulted in a breaking up of the family circle. This loss, however, was not without compensation, as the boy was sent to his father's brother, Guillaume Laënnec, a physician of culture and of high standing in medicine. The boy grew up under the terrible experiences of the French Revolution, and lived almost in the heart of the turmoil. At 13 he wore a sword, and by the orders of Robespierre took part in the Fête de l'Être Suprême.

The boy was temperamental and craved encouragement, which was lavished upon him by example and precept by his good uncle. On the other hand, his father was vain, negligent, prevaricating, and unstable. On many occasions the father endeavored to separate the boy from his uncle, but fortunately for the future of medicine, he was unsuccessful.

Laënnec entered as a student at the School of Medicine at the Hôtel Dieu at Nantes in September, 1795, being then 14½ years old. He diligently attended dissections and anatomical lectures given by Bacqua. It indicates the warlike character of the times to find that in the same month he was appointed military surgeon of the third class, in which capacity he was probably attached to the Hôspital La Paix with his uncle. The staff of this institution was cut down in 1797, and both went to La Fraternité, where Ulliac became young Laënnec's teacher. He was industrious, but found time for music, dancing, and rambles into the country. Sometimes his devotion to these amusements, especially music, which he loved best, was so prolonged that his affectionate uncle became worried, but Théophile never caused him any real anxiety. He learned to play the flute very well, he studied Greek, he made collections of all sorts of natural objects, and worked at botany in the apothecary's garden.

Laënnec matriculated at the École de Médecine on May 2, 1801, and from that time he actively labored in his life work. Under the teaching of Corvisart, who looked upon morbid anatomy as the foundation for the classification of disease, the young man showed marked adaptability and accomplished much in anatomical studies and original observations, and only two years later he began to go to lectures on morbid anatomy.

His genius began to unfold; he exulted in his profession. What he did during the remaining twenty-five years of his life would, under any circumstances, arouse our wonder, but his accomplishment appears marvelous when we remember that two millstones hung round his neck, either weighty enough to have dragged down most men. The first was his wretched health; he suffered from asthma, angina, insomnia, neurasthenia, and later from phthisis. More than once he nearly gave up his career in Paris for a life in the country. The second was his niggard of a father, who, although he failed to send money for clothes, books, and examination fees, nevertheless fawned upon his son to use his influence with those whose attention he had attracted to get him all sorts of posts.

Laënnec was an expert in shorthand and was a great note-taker. During his first three years at La Charité he drew up a minute history of

nearly four hundred patients. His first publication in 1802, at the age of twenty-one, was the description of a case of mitral stenosis which appeared in the *Journal de Médecine, de Chirurgie, et de Pharmacie,* June-July, 1802, and two months later his classic on "Histoires d'Inflammation du Péritoine" attracted wide attention. Thereafter his writings followed in quick succession, covering many points on normal and pathologic anatomy; later, on clinical medicine; and finally, on physical signs determined at the bedside and confirmed at autopsy. It is likely that the number of autopsies he performed would run well into the thousands, most of them upon patients whom he had previously studied at the bedside.

He was indefatigable in his labors, but on many occasions had to take holidays and at times prolonged rests in order to recuperate.

He was always keen on correlating signs and symptoms together with treatment, and in his own case made some valuable observations upon the effect of outdoor life at the seashore in promoting his well-being.

His thesis for graduation was "Propositions sur la Doctrine d'Hippocrate Relativement à la Médecine Pratique." He was graduated June 15, 1804, at the age of twenty-three.

A description of his physical appearance is as follows: This small attenuated bony figure of a man, with prominent cheek bones, hollow cheeks, thin nose and lips, calm, reflective blue-grey eyes, a long head covered with carelessly combed abundant chestnut hair, who was not handsome, but not ugly, whose face showed much distinction and intelligence, having gained his degree, was now cast upon the world to earn his livelihood and to illuminate it with genius not often excelled in our profession.

In his first year of private practice he earned 150 francs; in the second, 400. After that it increased rapidly, so that in 1813 it reached 10,000 francs. He had become the fashionable physician, and numerous well-known people consulted him.

At twenty-five he had become a chief among morbid anatomists, and had laid the foundation for scientific medicine by a proper classification of clinical morbid anatomy and by correlating the symptoms personally during life with the appearances seen after death.

On February 28, 1818, he publicly read an account of his new method of investigating the respiratory and cardiac signs by means of the instrument which he called a "stethoscope" but often spoke of it as "cylindre" or "baton."

Clinical reports, autopsy findings, case histories, lectures, and finally the publication of his book recording the wonderful results accomplished by the careful observation of physical signs as recorded in the first edition of *De l'Auscultation Médiate,* indicate the intensity of application, keenness of discernment, and correct interpretations that characterized all of his work.

It has indeed been inspiring to review some of the histories and records of the life of this wonderful man whose centenary should receive more than passing commemoration. Laënnec was in his day what Osler was to the recent generations. A perusal of Laënnec's writings is recommended to all medical students.

THE PROPER USE OF DIGITALIS

There are a few drugs which should give the greatest concern to the physician as to their proper use. One of the most important is digitalis. Much has been said and written on the use and abuse of this remedy. There appears in this number of the JOURNAL an article from the Pennsylvania Heart Association in regard to the proper use of digitalis in the treatment of heart disease. Any one reading this article will be forcibly impressed with certain statements made therein, more especially the assertion that digitalis never should be administered by hypodermic injection; yet we dare say this is a very frequent mode of administration, both by internists and surgeons, in emergencies and otherwise.

As to the best preparation to be employed, no doubt preference is given to the infusion, but whatever preparation is used (more especially the infusion) it should be freshly made, and by a druggist who is skilled in the art. The physician should be careful to ascertain that his digitalis prescriptions are filled by a competent druggist.

There are many who will decry the administration of digitalis per rectum. But it must be remembered that the rectum is capable of absorption to a better degree than we are wont to appreciate. There are some luetics who do not tolerate the intravenous administration of neoarsphenamin, but who show excellent results, with less reaction, when it is given per rectum. These patients state that they have the peculiar garlic taste almost as quickly by rectal injection as by the intravenous route.

Among other problems in regard to the use of digitalis may be mentioned massive doses; whether its physiologic action is inert in the febrile patient; and whether it should be administered to the ambulatory patient.

The attention of our readers is called to the very important subject of the proper use of digitalis, and that this topic will be discussed

at the next meeting of the Pennsylvania Heart Association, which will be held in Philadelphia at the time of the annual session of our State Society. A cordial invitation has been extended to any one who is interested to attend the meeting and participate in the discussion.

BLOOD PRESSURE

To many, the subject of blood pressure is a nightmare. Like various other procedures it has been greatly misunderstood, both by the medical profession and the laity. Many physicians and lay people are wont to speak of blood pressure in terms of figures only, failing to realize that the reading of the arterial tension is not merely the record in millimeters, but the proper application of this record to the individual patient. In other words, its *interpretation* is not given the place it should occupy in the clinical study of the individual. It is not so much a question of what is the blood pressure of the individual, but what is the clinical significance of the blood pressure in the individual under observation. A systolic pressure of 210 in one individual may be evidence of serious disturbance, while in another the increased tension may be maintaining the normal balance of circulation. In the daily routine, no doubt many of us are giving too much attention to hypertension, and not grasping the clinical significance of hypotension.

The attention of our readers is called particularly to the "Symposium on Hypotension" which appears in this number of the Journal. In one of the articles, special reference is made to the treatment of low blood pressure by the use of ephedrin. Those who are not well informed upon the use of this drug would do well to read this article carefully. The symposium is timely, and deserving of thorough study. It has a particular bearing, too, upon periodic health examinations, and its clinical significance should be fully appreciated by the profession.

PYLORIC STENOSIS

Before the Section on Pediatrics at the Harrisburg session a number of excellent papers which appear in this issue of the Journal were read on this subject in the form of a symposium, and the interest manifested, as well as the divergence of opinion, to say nothing of the admitted difficulties of diagnosis, in spite of all the research work that has been done, proved the value of such a symposium, and the need for much more work, as well as greater coöperation between the physician and the surgeon on this subject in the future. One point on which considerable stress was laid was that, in the opinion at least of some of the authors, babies suffering with pylorospasm did better on breast milk than on artificial feeding, whereas it is the experience of many physicians who handle these cases that the heavier food used in artificial feeding produces the better results, not so much from its nutritive value as from its bulk. It is highly probable that the explanation mentioned later in the paper as a possible cause for the failure of thick-cereal feeding (namely, the fact that "in no case was a baby attended by a skilled nurse, and the mother, usually after a short trial, became discouraged and refused to continue") is quite true, and explains why the artificial feeding of babies in the hospital by skilled nurses produces better results than breast nursing.

One author, in his conclusion, states that "the most reliable diagnostic sign is the presence of the typical pyloric tumor, the recognition of which is possible in a majority of the cases"; whereas, in the body of his paper, he admits that not one of the five cases he reports "showed the presence of such a tumor," thus proving that, while his original statement is undoubtedly true, the absence of such a tumor in no way contraindicates the existence of the pathologic condition. Attention is called to this point only to prove the difficulty of diagnosis, and therefore the urgent need, as suggested above, of much further study of this condition.

Much stress was laid on the value of atropin in the treatment of cases of pylorospasm, but no mention was made of the frequent idiosyncrasy of infants to this drug, although such has frequently been noted, making it impossible to continue its use long enough to secure results.

One of the most important points brought out in the symposium was the reference to the observations of Lemaire and Olivier, who called attention to the association of the symptoms of pylorospasm with those of tetany, the patient suffering with the combined symptoms showing no improvement until calcium chlorid was given. Sufficiently important is this association considered by some observers, that in all cases of pylorospasm the blood-calcium percentage is ascertained as a routine part of the treatment, and so important has this been found to be, that the administration of calcium chlorid and the placing of the infant in the hospital to have thick-cereal feeding under the supervision of experienced nurses has been found to give better results in many cases than any other form of treatment.

While gastric lavage is claimed by one author not to have any place in the medical treatment of

these cases (which perhaps may be true in the case of the breast-fed baby) undoubtedly, many of these infants receive much benefit from this form of treatment, when associated with the calcium chlorid and the hospital management of the artificial feeding.

There can be no doubt of the correctness of the statement of one of the authors that "pyloric stenosis is a definite surgical condition which in most cases responds to treatment," particularly if the infant be placed in a hospital where gastric lavage and thick-cereal feeding can be given, and where the blood calcium can be estimated promptly, and if below normal, calcium chlorid can be administered intelligently. Much benefit has been found to result from mixing ½ ounce of mashed potato with 1½ ounces of thick-cereal feeding, these two ounces to be followed by lactic-acid milk.

THE TANNIC-ACID TREATMENT OF SKIN BURNS

The severe toxic phenomena associated with burns of the skin have long been recognized, and have been the subject of extensive study. Several theories have been advanced as to the etiology of these toxic symptoms. The evidence of modern chemical and biologic study is practically conclusive that there are formed at the site of the burn toxic substances, the absorption of which is responsible for the typical constitutional reactions. These have been shown to be cleavage products of protein decomposition from the seared skin. In view of the fact that the danger from skin burns is due to the absorption of these toxic products, the basis for rational treatment should be the prevention of the absorption of these cleavage substances. One method of preventing the absorption of such toxins would be to precipitate them by the local application of some chemical, and thus render them incapable of absorption. Studies along this line of attack by Dr. Edward C. Davidson, in charge of the Division of Experimental Surgery in the Henry Ford Hospital, have brought out the fact that tannic acid is an excellent chemical to use for this purpose.

Dr. Davidson has published (*Surgery, Gynecology and Obstetrics*, Vol xli, No. 2, August, 1925, pp. 202-221) his studies in a large series of burn cases, and the data and results presented seem to indicate that the application of tannic acid is of incalculable benefit in the treatment of skin burns. The most important effect is the precipitation of the toxins, rendering them incapable of absorption. This effect is at once evident by the clinical behavior of the patients, the relatively low temperature curve, the slight degree of blood concentration, the comparatively low level of the nonprotein nitrogen of the blood, and finally the low mortality rate from primary toxemia, even though five of the cases presented showed burns involving considerably more than one third of the total body surface.

In addition to the almost total elimination of toxic symptoms, other very beneficial effects are obtained. There is almost immediate relief from pain. All dressings being removed in 12 to 24 hours and the affected parts thereafter kept free from covering, the patient is freed from the pain and annoyance of daily change of messy dressings. Secondary infection is almost entirely absent, because the closely adherent coagulated skin protects the unaffected layers. Finally, much less scar tissue develops during healing, because this same coagulated skin acts as a bridge under which the epithelium grows rapidly. In every respect, therefore, the studies presented by Dr. Davidson indicate that the application of tannic-acid solution is a remarkable improvement in the treatment of skin burns.

METHOD OF PROCEDURE

The method finally adopted in the management of cases of burns may be described briefly as follows: As soon as the patient is seen, he is given a relatively large dose of morphin sulphate hypodermically (for an average adult, ¼ grain) to alleviate the intense pain. The burned area is then covered with dry, sterile gauze pads which are held in place by sterile gauze bandages. This dressing is then soaked with a 2.5-per-cent aqueous solution of tannic acid. It is essential that the tannic-acid solution be made up fresh just before use, because it deteriorates upon standing, with the formation of the far less astringent gallic acid.

In order to prevent the deep caustic tissue injury found by Schutz to follow the application of concentrated tannic acid, small sections of the dressing have been opened for inspection at the end of twelve hours, eighteen hours, and again at the end of twenty-four hours. As soon as the part is found to have assumed a light brown color, all dressings are removed. In order to facilitate removal of the dressings without pain to the patient and without causing further trauma, it has been found desirable to wet the gauze with fresh tannic-acid solution shortly before this is done. The wound is thereafter left exposed to the air, but is carefully protected from mechanical injury, chilling, and bacterial invasion by a suitable cradle draped with sterile linen. In the more serious cases, artificial heat has been sup-

plied by placing within the cradle so prepared one or more ordinary electric-light bulbs.

Burns about the eyes are treated by local application of 5-per-cent tannic-acid ointment (made with equal parts of vaseline and lanolin as a base). This is not as efficacious as the solution, but the liquid cannot be used about the eyes because of the danger of its astringent action on the cornea.

One of the most essential features of the management of all burn cases is that of keeping up the fluid balance in the body. This is accomplished by forcing fluids by mouth, where possible, or by hypodermoclysis, or intravenous infusions, according to the special indications in each case. Blood transfusion has been employed in some of these cases, apparently with favorable effects.

THE THERAPEUTIC USE OF BEAUTY

Beauty, in whatever form it may be expressed, has the effect of lifting the human spirit out of itself; of counteracting doubt and fear, of relaxing strained nerves and muscles, of bringing peace to the unhappy and rest to the weary. It is a definite antidote to all the negative emotions, and as such has a claim to consideration in the treatment of both physical and mental disorders.

Of late, this principle is gaining increased recognition, and in the more modern hospitals the pendulum is swinging away from the bare white rooms that so long have been associated with the hospital. The hotel idea in hospital furnishings is rapidly being adopted, for physicians and executives have come to realize that the customary bare, ugly room is repellent and discouraging to the patient who is greatly in need, rather, of help to overcome his fear of the unknown and even terrifying things which may happen to him within its walls.

Attractive wall decorations and a few copies of great paintings or inspiring landscapes, simple washable hangings, rugs on the floor, and comfortable, homelike furniture of sufficient quantity to provide for callers allowed by the attending physician go a long way toward creating a better state of mind in the patient. Pleasanter surroundings will make him feel more at ease, lessen the strangeness natural in entering a hospital, relieve the boredom of convalescence, and make a more contented patient—and hence one with a better chance of prompt recovery. Children's wards are now being decorated with pictures on the walls, in nursery style, and there is no doubt that the psychological effect is good.

More use should be made of all the arts in every hospital. Several institutions, more particularly those for the care of the tuberculous, have discovered the efficacy of music in creating a happier, more hopeful atmosphere. The patients become more tractable, easier to handle, and their health is actually improved by the all too brief contact with a beauty that appeals to the ear. How much better, then, to supplement this with beauty that appeals to the eye and to the other senses!

That the bed shall be clean and sanitary is not enough. That it shall be soft and comfortable is almost equally important. Hospital beds are so frequently hard, with sagging springs, and coarse, heavy coverings. Would not the extra expense of better equipment justify itself by decreasing restlessness of the patient and promoting sleep and relaxation? Might it not even shorten the hospitalization period, or perhaps lessen the nursing care required?

So, too, with the hospital tray. The invalid with finicky appetite cannot be expected to enjoy a lukewarm meal served on thick ugly porcelain dishes. A dainty tray is a great aid in tempting him to eat the food so necessary to a prompt recovery, and nurses should be impressed with the therapeutic value of hot food, clean linen, and a flower on the tray. Cracked, chipped, and broken dishes should be discarded, as they are highly insanitary and oftentimes inconvenient. Bedridden patients, for example, should not be expected to drink hot beverages from handleless cups.

Again, hospitals reek with an odor of disinfectant that often is extremely unpleasant to unaccustomed nostrils. Every effort should be put forth to produce and employ odorless disinfectants, and thus reduce one of the petty annoyances to which hospital patients are subjected. Odors from the kitchens should be entirely eliminated. To this end, the culinary department is frequently placed on the top floor, but when this is not possible, the building should be so constructed as to provide ventilation adequate to carry away the odors produced by food preparation, for nothing is more destructive of appetite. Consideration also should be given the amount of air space needed in private rooms and wards, not only for patients and attendants, but also for the many visitors who call on patients. This is an important factor in the comfort of the sick.

Further room for improvement surely will be found in keeping the corridors more quiet, in the installation of noiseless signals instead of bells, in eliminating the clanging of elevator

doors, in reducing the bedtime bustle. Unscreened transoms are trying to many patients, and unshaded lights should without exception be replaced by lights that will provide the necessary illumination to physicians and attendants with a minimum of discomfort to the patient.

Many of these are small things in themselves, but it is necessary only to become a hospital patient for a few days to realize how many apparently trivial things are overlooked by the authorities that will add greatly to the sum total of happiness and comfort of the patients. A well-known surgeon, in discussing anoci-association, stated that it begins from the time the patient crosses the threshold of the institution. The reception by the door man, the manner of the admission clerk, the elevator man, the floor nurse—all can make important contributions towards an encouraging atmosphere.

But not only in the hospital does this principle apply. Due consideration is seldom given to the factor of beauty in the furnishings of the doctor's office. A comfortable waiting room, tastefully furnished, warm, well lighted and ventilated, and providing entertainment in the form of good pictures on the walls and good literature on the table, cannot fail to bring the patient into the consulting room in a better frame of mind than if this physical comfort and mental diversion had been neglected. Not only does it lessen the nervous tension; inevitably it increases the patient's confidence in the up-to-dateness of his medical adviser—and confidence is one of the necessary preliminaries to successful treatment. The experiment would be interesting, too (in the few offices where it would be practicable), of installing a good phonograph or radio, to be operated by the office attendant, for music has a remarkable influence on the nervous system.

Within the consulting room, an orderly desk, shining equipment, tidy housekeeping, fresh paint and wall paper, good light and ventilation, and a comfortable chair for the patient are equally necessary if the good effect is to be prolonged. Merchants have long since recognized the cash value of pleasing surroundings. Why, then, should the physician fail to make use of this psychological principle?

One of the doctor's favorite prescriptions is "a vacation." Not all the value of a sojourn away from home is due to rest, variety, sunshine, and fresh air. Some of it comes from the fact that a vacation usually means the enjoyment of beauty in some form. Indeed, to the average American it almost spells beautiful scenery and pleasant companionships.

While the therapeutic value of beauty is only beginning to be recognized and is not yet fully utilized, it can be made to play an important part in the treatment of all types of human ailments, as well as in helping to keep men sane and healthy.

THE TRISTATE CONFERENCE

On page 811 of this number of the JOURNAL will be found a summarized report of the third meeting of the Tristate Conference. The following subjects were discussed: (1) Postgraduate Medical Education in Pennsylvania; (2) The Workmen's Compensation Act; and (3) What Can Be Done to Render More Uniform the Medical Practice Acts of the Three States?

Our members are requested to read this report in order that they may become better acquainted with the aims of the Conference, and that they may be better informed upon various phases of the topics under discussion. In order to accomplish the desired results, it will necessitate the introduction of bills in our State Legislature. These Conference reports afford much enlightenment to our members in regard to proposed legislation. Then, too, the negative phase brought out in the discussion is just as important as the positive views.

CAUTION IN USE OF ULTRAVIOLET RAYS

The discovery of every new force of nature has been followed by its casualties. Before its danger was known, the x-ray numbered its victims in the hundreds, perhaps the thousands, so it may not be amiss to sound a note of warning in regard to the incautious use of the ultraviolet rays.

We are assured that the worst that can happen is a bad sunburn, but the mercury quartz lamp is too new a discovery to state positively that repeated attacks of sunburn may not be deleterious to the health of the operator. Certainly, an acute case of ultraviolet dermatitis produced by overexposure before pigmentation has had time to develop is painful, is often productive of serious shock, and may be followed by long-continued chronic symptoms—whether from natural sunlight or artificial radiation.

In therapeutic use of light, the body area and length of exposure must be increased gradually. Heliotherapy in pulmonary tuberculosis has proved a most beneficial method of treatment, but is followed by severe reaction unless very carefully timed to the resistance of the patient as measured by pigmentation. In antirachitic ther-

apy, the effectiveness of the radiations is said to be proportionate to the tan produced—and this type of pigmentation develops slowly.

The secret of effective use of actinic rays is gradual increase of exposure until finally the entire nude body may be radiated for several hours daily with beneficial effects. It must not be forgotten, too, that glass permits only the longer and less effective of the ultraviolet waves to pass through, screening out the greater part of the effective chemical rays. Exposure, therefore, should be to the direct rays, if the optimum effect is to be obtained.

THE PROGRAM THIS YEAR

The Committee on Scientific Work presents for your consideration in this issue of the Journal the program for the Philadelphia meeting of the Medical Society of the State of Pennsylvania. Never has such an opportunity been offered to the members to attend dry clinics on every day of the meeting. They will be presented in each of the Sections, and the clock will govern the time for the discussion of each case. Short, snappy, and concise are the only words to describe the method and manner in which the clinics will be conducted.

The period feature will be continued this year throughout the program, with fifteen minutes allowed for general discussion.

The guests of national reputation, two allotted to each Section, and the president of the American Medical Association will present subjects of timely interest. In the General Sessions, the guests are to be Dr. A. S. Warthin, Professor of Pathology, University of Michigan, and Dr. Francis Carter Wood, of Columbia University. In the Medical Section, the guests will be Dr. Howard T. Karsner, Professor of Pathology, Western Reserve University, Cleveland, Ohio, and Dr. Francis W. Peabody, of Boston, Director of Thorndike Memorial Institute. The guests of the Surgical Section will be Dr. Joseph Colt Bloodgood, of Baltimore, and Dr. Edward C. Kendall, Professor of Biochemistry, Mayo Foundation Graduate School, University of Minnesota. In the Pediatric Section, the guests will be Dr. Isaac A. Abt, Professor of Diseases of Children, Northwestern University Medical School, Chicago, and Dr. A. Graeme Mitchell, Professor of Pediatrics in the University of Cincinnati. The guests in the Section on Eye, Ear, Nose and Throat Diseases will be Dr. Conrad Berens, of New York City, and Dr. George L. Tobey, of Boston—both noted specialists. The guest of the Section on Dermatology will be Dr. Howard Fox, of New York City.

Kindly read the program carefully, and note the cases to be shown in the clinics in the section in which you are interested. Then decide whether a similar program has been presented, or clinics offered of the nature of a three-days postgraduate course that you can afford to miss.

Each year the Committee on Scientific Work strives to offer a better-rounded program than the one before, but this year its members feel that they have surpassed their fondest hopes in this regard. You must decide for yourself whether in your judgment the committee is justified in making this claim, then act accordingly. Say to yourself, "I will (or I will not) attend the State Society meeting at Philadelphia next October 11th to 14th," as your conscience dictates. No one can make that decision for you.

You will recall that the lecture for the general public was usually held Thursday evening, when you were on your way home by train or auto. This year, it will be held on Wednesday evening, at 8 p. m., in the Convention Hall of the Bellevue-Stratford Hotel. You and your friends may attend, and the clock will interrupt the speaker at 8:50, if he has not finished by that time. This must be done in order to allow the chairs to be removed before the President's reception begins at 9:30.

I will look for you and you look for me, October 11 to 14, 1926, at Philadelphia.

Thomas G. Simonton, M.D., *Chairman,*
Committee on Scientific Work.

JOTS AND TITTLES

Discoveries and Inventions

It is reported that three German scientists have discovered a method of producing vitamins artificially whereby it is possible to impregnate foodstuffs with these elusive elements. It is promised that Leipzig University will issue details of the discovery.

A patent has been issued to Robert Fagan, inside superintendent of the Lattimer colliery of C. Pardee Brothers and Company, on a device which eliminates dust in rock drilling in anthracite mines. It is hoped that this will prevent the rock-miners' asthma from which so many workers suffer.

At Hull Deaf and Dumb Institute in London an apparatus was recently demonstrated which enabled 80 per cent of the totally deaf children to hear. W. L. Calvard, a civil engineer, is the inventor. The apparatus consists of a microphone, telephone distributing board, and head phones, and while amplification plays a part, its chief object is the transmission of sound to the nerves of the inner ear. The inventor worked on the principle by which plumbers trace leaks in pipes, dragging a steel rule, held in the open mouth, along the pipe, thus letting the vibrations reach the ear from the inside.

Public-Health Jottings

Dr. J. Ellis Barker, the distinguished British sociologist, states: "For decades France's population has been utterly stagnant. Had it not been for the immigration of Belgians, Italians, Spaniards, Poles, and

others, France's population would have been shrinking. England is going the way of France. The birth rate is falling at an alarming rate. Unless there is a change, England will cease to populate and colonize the world, and may shrink to the relative position of another Belgium. At present, notwithstanding the lowness of the birth rate, the population is still increasing because, owing to good sanitation and careful living, the death rate is low. If our death rate were as high as that of France, our population position would be worse than that of France. The outlook is distinctly gloomy." It was an extraordinary statement, and made by a keen student who is by no means an alarmist. Even to the casual observer, the idea of England being linked with France in diminishing population stands out as a development which is new in English history.

According to a report of the Department of Commerce, there are in American hospitals for mental disease 245 patients per 100,000 of population. There is now three times as much insanity in proportion to the population as there was in 1880. Time we did something about it!

A writer in the *Delineator* tells us that "many cases of juvenile delinquency, irritability and incorrigibility have resulted from aching and broken-down teeth and abscesses about the mouth. A correction of such mouth disorders has worked a surprising and wonderful change in a large majority of cases. . . . Abscesses and infections about the mouth are liable to cause systemic disorders . . . such as ulcers of the stomach, appendicitis, gland, kidney, and liver disturbances. All cases of tooth or mouth infection . . . should be promptly treated, for such infections reduce the resistance and vitality of the child, and make him more susceptible to communicable diseases. Insanitary mouth conditions are the principal causes of tooth decay. It is, therefore, highly essential that the child should early be taught the regular and proper use of the toothbrush. . . . There is no other method or agency so effective as the toothbrush in combating tooth decay, and no habit of personal hygiene of greater value in preventing unhealthy mouth conditions than the regular brushing of the teeth and gums." Candor compels us to admit that this is a moot question. Probably general systemic conditions have more to do with oral health than has local cleanliness. Nevertheless it behooves us to leave no righteousness unfulfilled, and, at least, regular use of the toothbrush is an aid to development of an attractive personality. We all know about the insidious dangers of halitosis!

Thomas J. Clougher has been sentenced to Sing Sing to serve not less than 5 years nor more than 10 years at hard labor for his part in the New York milk-graft scandal. In applying for a new trial, his attorney stated: "He has worked most of the time in the Health Department. The crime of bribery of which he stands convicted is not a crime of violence like robbery or burglary." But the judge said: "Venality and corruption by a public official is perhaps one of the most serious crimes known to the law. When corruption in office occurs in a department like the Department of Health, which has been organized to protect the health and lives of all the people of the community, the offense becomes most heinous. Drastic punishment should be imposed, and I will pronounce a sentence to fit the crime." May we have more such judges!

The closed car is counteracting the good the automobile has done in tempting people out into the open. One of the main benefits of an outing is the exposure to the ultraviolet rays of the sun, but as glass screens out most of the therapeutic rays, the joy-rider might as well stay at home and sit on the enclosed porch.

Why the men must lag so far behind the women in dress reform is a mystery. The eternal feminine has discarded these many years the impediments to freedom that used to clutter up her wardrobe. Never, from a therapeutic point of view, have feminine styles been more healthful. Yet man clings to his high collars, his heavy coats, his thick clothing, as though they were the law of the Medes and Persians and could not be changed. The police of Philadelphia have recently been permitted to appear coatless on duty, but the trolley motormen and conductors are denied this privilege, not to mention the countless diners in large restaurants and other unfortunate private citizens. Time for a little Bolshevik propaganda on this subject! All together now!

The American Institute of Homeopathy was recently told by Commander Robert G. Davis, of the U. S. Navy, of a new field of public service that is rapidly developing—aviation medicine. Since it is universally recognized that only the physically fit should fly, and immense growth of commercial and private aviation is forecast, physical examinations for fliers will soon assume a position of importance for which physicians should be prepared.

At the same meeting, Dr. Pedro N. Ortiz, State Commissioner of Health of Porto Rico, stressed the fact that poverty, lack of work, and low wages have an important bearing on the morbidity and mortality rates. With the splendid conditions in America, her people should be the healthiest in the world.

The New Jersey *Journal* is giving hail Columbia to the governmental authorities who can find no better method of disposing of 10,000 gallons of contraband alcohol than dumping them into the New York harbor. We agree with the *Journal* that such waste is "heinous wickedness" when hospitals are forced to beg for money to buy the alcohol needed in their legitimate medical work. This is a question entirely apart from that of prohibition, and if the laws do not permit of such a disposition of confiscated drugs, they should be altered to prevent needless waste.

A study of 1,001 heart cases from the Bellevue Cardiac Clinic for Adults, in New York, reveals that about a fourth presented rheumatic heart disease; two-fifths, arteriosclerotic; one-tenth, syphilitic; in one-tenth the origin was unknown; and other factors, such as scarlet fever, hyperthyroidism, nephritis, etc., together caused less than one-tenth. In about three-fourths of the cases of rheumatic heart disease, rheumatic fever, alone or in combination with other infections, was an etiologic factor; tonsillitis in one-fourth; chorea in one-tenth; and "growing pains" in one-twentieth. Ninety to 95 per cent of rheumatic heart disease occurred before the age of fifty, more than half of which occurred before thirty. Syphilitic cases appeared to be rare before forty and after sixty. From 80 to 95 per cent of arteriosclerotic heart disease occurred after fifty. Two-thirds of the cases of unknown etiology presented lesions typical of rheumatic heart disease, and occurred before the age of fifty. The authors state that the available mortality statistics for organic heart disease are inadequate, and that a uniform system of records and organization should be introduced into clinics in order to facilitate the collection of facts for statistical purposes. The full report may be obtained from the Heart Committee of the New York Tuberculosis and Health Association, 244 Madison Avenue, New York City.

Did You Know

That from the witch doctors of East Africa, civilization in the past has derived priceless information with regard to certain curative drugs and animal and vegetable poisons?

That, when a Moslem woman is ill, she indicates on a small ivory or metal figure the spot where she feels the pain, and passes the figure through a curtain to the doctor, who makes his diagnosis accordingly?

That, under a new law in New York State, chiropractors cannot use the title "Doctor" nor the terms "D.C." and "Doctor of Chiropractic"?

That Dr. Charles E. deM. Sajous, of Philadelphia, has just brought out a book which has been characterized as "a serious and profound contribution to the discussion of the most vital problem of the age," dealing with a harmonization of religion and science? Dr. Sajous discusses errors in translation of the Bible which have been responsible for much of the dissention in regard to religion, and states that "ignorance of the modern interpretation of evolution is another source of ridicule which the enemies of religion are not slow to utilize as weapons against it." He holds that, properly translated and interpreted, the Bible and science are in complete accord, and urges religious teaching as the "only remedy for the deplorable conditions which are underminiing the youth of our country."

An Inspiring Letter

It is always gratifying for a writer to know that his message has been interesting or helpful to someone, so the following extracts from a letter of Rev. Frank Persons, of All Saints House for Rebuilding Children, Elkton, Va., have seemed to us worth quoting: "The excellent editorial in the June Atlantic Medical Journal on 'Summer Camps for Malnourished Children' mentions the Rollier method. As a backwoods parson trying to 'rebuild' sick and even tuberculous children of the mountains, I am eager to know more of this method and whether it is practicable for our new little ten-bed preventorium, where we have a nurse and a dietitian in charge, with a mountain girl for help.

"After having sixty-odd of the sick and malnourished boys and girls in our home, in groups of six or eight, during the past five years—trying to see what fresh air, sunshine, rest, diet, books, pictures, and music could do for these little half-starved lives (of course first removing physical handicaps), we began in December the new venture for incipient cases of tuberculosis. Lack of beds and funds kept us down, but we have treated gratis eleven such children, and with excellent results, working under the competent direction of physicians and specialists in Harrisonburg and Elkton, Va., who through their generous interest and unpaid service make much of the work possible.

"We are an institution of the Episcopal Church, running entirely on faith. We started without a penny, and now have two five-bed sleeping porches, nine windows each, hardwood floors, Simmons beds and Hall bed-side tables, a large dining doom with 15 casement windows—these as additions to a six-room, two-story cottage—and sixty acres of rough, rocky ground. Friends in Philadelphia gave the little sanatorium and beds; others in New York equipped us.

"At an altitude of 1,200 feet, with the Blue Ridge behind us, the Shenandoah Valley in front, and God's open air, we feel that we have the beginnings of a useful institution for the free care of tuberculous children."

A Report of Two Interesting Meetings

A mass meeting was held in Philadelphia, May 24th, on behalf of Pennsylvania's handicapped and dependent wards, under the auspices of the Public Charities Association of Pennsylvania. Governor Alfred E. Smith, of New York, delivered a stirring plea for the state's helpless. He urged the people of this state to stand solidly behind the proposed amendment to bond the state for $50,000,000 for adequate institutions for its dependent wards. Dr. Horace V. Pike, of the Danville State Hospital, declared that the present condition of the state institutions was the culmination of long years of neglect, and no longer can be sidestepped. Dr. Pike's plain statement of conditions, lack of beds for patients, waiting lists two and three years' old, herding of mental sufferers regardless of their condition, discharge of uncured insane to go free into the community because there is no place for their proper treatment, continual deterioration of hospital staffs because of inadequate provision for their housing and living, convinced the audience that it would be false economy to save money and neglect this growing menace of the state. Pay-as-you-go is impractical in government affairs.

The eleventh annual convention of the American Association of Industrial Physicians and Surgeons was held in Philadelphia in May. Dr. George Morris Piersol, Medical Director of the Bell Telephone Company of Pennsylvania, took exception to the criticisms which have been made against periodic physical examinations of employees, asserting that such examinations protect the employers against unhealthy workers, and prevent the healthy employees from exposure to danger of infections or contagion. Dr. F. B. Granger of Boston spoke of the abuses in the use of physiotherapy, much of which has grown out of the practice of turning over the operation of electrical machines to incompetent nurses. He claimed that this misuse, in a large measure, is responsible for the disrepute into which physiotherapy has fallen. He urged against its use alone, but always as an adjunct to medicine.

Dr. Hubley R. Owen, Police Surgeon of Philadelphia, stated that the familiar moving-picture comedy of the policeman who helps himself to fruit from the pushcarts along his beat is not so far from real life, after all, and further, that fruit-grabbing policemen usually are diabetics.

Dr. Elton Mayo asserted that work is restful rather than tiring, based upon the results of studies in industrial fatigue which have been conducted by the Wharton School of Finance of the University of Pennsylvania. These investigations disclosed that girls who dance until 2 a. m. report for work six hours later, virtually exhausted, but by afternoon, after standing at machines for several hours, their physical condition is back to normal.

A symposium was devoted to dust as a cause of pulmonary diseases among workers. Drs. H. R. M. Landis and H. K. Pancoast were the principal speakers. Silicosis, which incapacitates the lungs of workers in certain sorts of mines, quarrymen, potters, sandblasters, and others who work in the midst of silica dust, was described and discussed. Investigation of that type of lung affection is relatively recent, and America is far behind other countries in its knowledge and the care of those affected by it, Dr. Landis pointed out. There is an increasing tendency to include those incapacitated by this disease among those to benefit by the compensation laws. There is need, however, he explained, of

very accurate definition of the terms of the law if baseless claims are to be avoided.

Dr. William Alfred Sawyer, industrial physician for the Eastman Kodak Company of Rochester, N. Y., was elected president.

THE HEART

THE PROPER USE OF DIGITALIS IN THE TREATMENT OF HEART DISEASE*

Discussion of the use of digitalis should be prefaced by stating the fundamental principle that in the treatment of heart disease, drug therapy, except in emergencies, comes last. It is only after careful study and regulation, so far as possible, of other factors concerned that cardiac medication should be considered and resorted to if necessary.

It is desirable to become familiar with one good preparation of powdered digitalis and one tincture. No other is necessary. Specially refined proprietary preparations of digitalis and other drugs with action similar to that of digitalis have not been found superior.

Digitalis has its chief value in the treatment of auricular fibrillation and flutter, and owes most of its reputation to its remarkably beneficial effects in these conditions. This action is not stimulating but sedative, and is produced by depressing transmission of impulses through the junctional tissues. The dosage required varies widely, and is determined by observation only. In most individuals, the old-fashioned method of giving comparatively small doses until the desired ventricular rate is obtained is preferable to the newer method of massive doses. In emergencies, however, massive doses, either by mouth, or if the stomach is nonretentive, by rectum, may save life. Intravenous injection is seldom advisable; hypodermic, never.

After the ventricular rate has been slowed, an attempt should be made to discover an approximate optimum rate, which should lie somewhere between 60 and 90 per minute, and just enough digitalis should be rationed to maintain the rate around the level desired. This is not always easy, since individual requirements vary, and increase of activity may necessitate more digitalis.

In the treatment of other forms of disturbed cardiac mechanism, digitalis has little value. It is almost universally used for simple tachycardia, but its reputation is largely undeserved and is due to persistence of the old views prevailing before fibrillation and flutter were distinguished from other forms of tachycardia. It is more effective in children than in adults, and may be found beneficial in postrheumatic tachycardia after the fever has subsided.

In the treatment of broken compensation with normal cardiac mechanism, the stimulating action of digitalis in strengthening the heartbeat is sought. Although the results are frequently disappointing, they are sometimes brilliant. The majority of patients can be benefited if the proper amount is administered. Unfortunately, the dosage required is usually large, and near the toxic limit, and cannot be so readily gauged as in the case of fibrillation or flutter. The newer methods of studying digitalis effects on the heart, such as electrocardiograms, help very little in regulating dosage. There is no better clinical rule than that formulated by Withering to the effect that the drug should be given until it has manifested an influence on the heart, the kidneys, the stomach, or the bowels.

JOHN D. MCLEAN, M.D., *Secretary*,
Pennsylvania Heart Association.

*Prepared for the JOURNAL by Charles C. Wolferth, M.D., Philadelphia, Pa.

HOSPITAL ACTIVITIES

Hospital Day.—The outstanding feature this year was the observance of the day by President and Mrs. Coolidge, who spent some time visiting among the patients at the Walter Reed Hospital. In many instances the programs of the government institutions were outstanding in their communities, and overshadowed the best efforts of municipal and privately conducted hospitals. As in past years, there were a large number of graduation exercises held on Hospital Day, and the baby reunions or "National Hospital Day Baby Shows" were more numerous and more extensive. On this day, too, may be held formal dedications and openings of new buildings. Some of the Pennsylvania hospitals celebrated Hospital Day this year for the first time.—*Hospital Management.*

One Solution of 12-Hour Special Nursing.—At a recent state hospital convention a brief report was made of an experiment that is being tried out by a hospital that does not desire to have its name made public until at least a year's experience with the plan has been had. Thus far, however, the idea, which is to furnish 12-hour special nursing to patients at a minimum cost to them, has met with great success. The idea does not offer complete "special nursing," since under the plan the special nurse is on duty only 12 hours during the day, and at night a small number of patients will have another special nurse assigned the group.

The patient pays $7 a day for the special nursing, of which the special nurse on days receives $6. The other dollar goes towards the salary of the night special nurse, who also is on the staff of the hospital, and who receives $6 for 12 hours' duty. In the event that the night nurse does not have six patients to serve, the hospital makes up the difference, so that she receives the same pay as the day special nurse, but in return the night nurse has definite duties in connection with the administration or routine of the hospital.

This plan has been in effect for a number of months and has proved satisfactory in every respect. The meals of the day nurse are paid for by the patients just as in the case of any special nurse, but the night special nurses are furnished their meals, since they are regarded as part of the hospital staff and are paid by the hospital.

The brief outline of this plan at the recent meeting developed a great deal of interest, and a further report of the experiment at the end of the year, as promised, undoubtedly will be received with a great deal of interest by every hospital and nursing administrator interested in the problem of furnishing a special nursing service on a 12-hour basis at a minimum cost.—*Hospital Management.*

Collecting Accounts.—Unpaid patients' accounts are the bane of every superintendent's existence. How to obtain payments without causing enmities is the problem that confronts every hospital executive. The method in vogue at the Jewish Hospital, Cincinnati, Ohio, has brought very good results, and is presented in the hope that others may benefit thereby.

When the patient is admitted by the room clerk, he is asked to pay a week in advance. He is also given a folder entitled "Rates and Information for Patients." The information contained therein has this important paragraph:

Payment of bills: Payment for room or ward is required one week in advance. If the patient leaves before expiration of period paid for, a pro-rata refund will be made.

At the end of each week the patient is given an

itemized bill, on which is printed, "bills must be paid before leaving hospital."

An hour before the patient leaves, a completed bill is sent to the room, and when escorted to the entrance by a pupil nurse, the patient is directed to see the cashier, with a view of settling the account.

Despite all precautions, patients will leave the hospital with an unpaid balance. Then follows the real art of making the collection.

Our plan is to mail the following letter to the patient if the bill has not been paid within ten days after leaving the hospital:

Mr. John Doe,
1800 Maple Ave., City.
Dear Mr. Doe:

We are happy to learn that you have been able to go home, and we hope that your health is improving daily.

While in our hospital we trust that you received every attention and courtesy from our nurses and employees and that we made your stay as pleasant as possible under the circumstances.

We are enclosing you herewith statement of your account as it appears on our books. As our rules provide that accounts should be paid before leaving the hospital, may we ask you kindly to send check to cover the enclosed amount.

Should you have any need of a hospital again, we trust you will give us the opportunity to serve you.

Very truly yours,
Jewish Hospital Association,
Per.....
Superintendent.

The bookkeeper places the patient's name in the "tickler" file ten days from the time the above letter was sent. If it does not bring a response, the No. 2 letter is sent. It is as follows:

Mr. John Doe,
1800 Maple Ave., City.
Dear Mr. Doe:

Ten days ago we enclosed you statement of amount owing the Jewish Hospital. As we have not received your check, we presume this matter has been overlooked.

May we again call your attention to the enclosed statement and ask you for payment of same? Our rules require that all bills must be paid before the patient leaves the hospital.

Trusting you are convalescing nicely and always pleased to serve you, we are,

Very truly yours,
Jewish Hospital Association,
$25.00 Per.....
Amount Due Superintendent.

Again the account is advanced ten days in the "tickler" and on that day, provided no reply has been received, the No. 3 letter, which is rather to the point, is sent. The letter reads as follows:

Mr. John Doe,
1800 Maple Ave., City.
Dear Sir:

This is the third statement we have sent you covering the bills due the Jewish Hospital Association, to none of which we have received a reply.

We cannot understand why we have not received your check to cover the amount due, as all patients must pay their bills before leaving our institution.

If we do not receive your check within the next five days, or you do not call at the office and make arrangements for settling this bill, we shall be obliged to turn the same over to our attorney for collection with authority to use any legal means to secure payment.

We trust that we shall either receive your check or a personal call within the next five days.

Very truly yours,
Jewish Hospital Association,
$25.00 Per.....
Amount Due Superintendent.

Again the account is advanced ten days, and if no return has been made the bill is referred to our attorney for collection.

The foregoing plan works successfully, but it must be carried out to the letter. Superintendents are extremely busy, and hence should assign the work to a competent person whose duty it is to follow out the system. However, supervision is necessary on the part of the hospital executive.—*Hospital Management.*

Uniform Action Brings Adequate Pay for Industrial Service.—Edgar C. Hayhow, superintendent, New Rochelle Hospital, New Rochelle, N. Y., in his paper on "Workmen's Compensation Law from the Standpoint of the Hospital," read before the 1926 meeting of the Hospital Association of New York, described the methods used successfully by hospitals of Westchester County in obtaining adequate pay for service to industrial patients under the law. Uniform action was brought about through the Westchester County Hospital Association, which some time ago adopted a resolution asking members of the Association to adopt a uniform procedure of charging employers and insurance companies the same rates that the hospitals charge for semiprivate cases, or any excess charges if the patient occupied more expensive beds. A copy of this resolution was sent to every hospital superintendent in the county, with the request that it be called to the attention of the board of directors. Mr. Hayhow asserted that as a result of this action, New Rochelle Hospital has had no payment for industrial service refused, and in some instances the charges have amounted to more than $1,000.—*Hospital Management.*

PUBLIC HEALTH

Safe Drinking Water.—The two field laboratories of the State Department of Health now engaged in protecting the public against unsafe drinking-water supplies along the State highway system have completed their work along many of the State's most important highways, and are now working in the northwestern section of the Commonwealth. A new sign developd by the Engineering Bureau is being placed upon approved water supplies. This marker shows a blue background, with a yellow keystone on which is inscribed "Safe Drinking Water Here." Secretary Miner recently urged all tourists in Pennsylvania to seek these signs before quenching their thirst. This advice was based upon the fact that in previous investigations by the Engineering Department less than one fourth of the private water supplies along state highways were safe for drinking purposes. The Health Department is doing everything to protect the thousands of tourists using the highways, but it is up to the tourists to coöperate by avoiding springs, wells, and pumps which do not carry the approval of its engineers.

Supervision of Tourist Camps.—The State Department of Health has completed its arrangements for the proper supervision of the large tourist camps which have been located within a radius of 25 miles of Philadelphia for the accommodation of the thousands of automobile tourists who will visit the Sesqui-Centennial. There are twelve of these camps, varying in car capacity from 500 to 1,200, which means a floating population of 1,500 to 5,000 people in them. These camps were established with the approval of the Keystone Auto Club, of Philadelphia, working as a subcommittee for the Sesqui-Centennial officials. The Department of Health is coöperating as to regulation of the sanitary conditions, which

involves water supplies, and sewage, garbage, and rubbish disposal. These camps carry an approval sign, indicating their safety from the standpoint of general sanitation and that they have observed the necessary specifications for such camps required by regulations of the Department's Advisory Board. The Bureau of Communicable Diseases will have its investigators on the ground from time to time for the purpose of checking up on any suspicion of conditions which might lead to a serious epidemic. The Department also has employed extra personnel to investigate, supervise, and make safe the hundreds of mushroom camps which are rapidly springing up in the eastern portion of the State.

Free Examination of Private Water Supplies.—The Bureau of Engineering of the State Department of Health is now ready to examine all private water supplies in the Commonwealth, upon request to the Department at Harrisburg. The actual testing of the water will be done by the State Laboratory in Philadelphia. Hitherto the Department has been able to examine only water supplies along the state highways, those used by more than six families, or on farms where typhoid had originated. Under present arrangements, all farmers may obtain this protective and preventive feature merely by requesting the Department for it. The enthusiastic coöperation of people living in rural districts is, of course, necessary to the success of the plan.

Preventive Medicine at the Source.—The State Health Department's motorized health car is now working in Fulton County, where the rural population is being afforded an opportunity to bring children for examination and direction to the local physicians for necessary treatment. It is the purpose of the car to cover Venango, Center, and Bradford Counties during the early summer months, traversing other counties later in the season. The staff includes several physicians, nurses, and a dental hygienist. The organization does not treat patients. It makes only the necessary physical examinations, and notes defects that should be remedied. In thousands of children, malnutrition, diseased tonsils, and other conditions which impair the physical vitality of the growing child have been found. The children are then referred to local physicians for corrective treatment. According to Secretary Miner, "in thus protecting the youngsters of the State, official preventive medicine works at the source."

Crime and Mental Disease.—As a result of ten years' experience as director of the Psychopathic Laboratory of the Municipal Court of Chicago, Dr. William J. Hickson has summarized the causes of crime as he sees them as follows:

"Mental debility is the primary factor in crime, and the elimination of the criminal is a problem more in psychology than in the efficient administration of thousands of police with quick trigger fingers.

"Virtually all criminals are short-changed on mental equipment or emotional stability.

"In reference to the number of offenses, 90 per cent of the crime in Chicago is attributable to some form of mental debility, usually not apparent to laymen.

"In more than 80 per cent of the criminally inclined mental weaklings, the delinquency is manifested before the period of adolescence.

"Crime could be completely wiped out in one generation by properly caring for youths of criminal inclinations.

"A large majority of persons convicted of major crimes, such as murder, robbery and assault, have been in court previously, many times, for minor offenses. In most cases, they have been fined, sentenced to short terms, or put on probation, only to return soon to face a more serious charge.

"Punishment is not a deterrant to crime in the eyes of most criminals.

"Criminal inclination in mental weaklings is a dominant impulse quite as irresistible as the healthy social impulse of normal individuals, and the criminal, because of his debility, does not regard punishment as retribution, but merely as a conspiracy of society to rob him of his right to self-expression."—*Ohio State Medical Journal.*

INDUSTRIAL MEDICINE

The Treatment of Industrial Burns.—Burns may be caused by moist heat, dry heat, chemicals, electricity, and by radio-active substances. Electrical burns are (1) those from flashes, which are usually of first degree and involve only the exposed parts of the body; (2) those usually less extensive but more serious, due to the passage of the current through the body, when there is a burn produced at both the point of entrance and at point of exit of the current, so that the action is partly electrolytic and partly due to heat. Classification by depth includes first degree, second degree, and third degree (as usual).

The commonest complications of burns are infection, kidney inflammation, suppression of the urine, toxemia, and contractures. The prevention of contractures lies in the prevention of infection, splinting of the parts where possible, maintenance of slight tension —as of the structures about the neck—early passive motion in the neighborhood of joints, healing as promptly as possible, and the use of gentle massage as soon as the new epidermis will permit.

Toxemia is shown by high temperature, rapid heart action, nausea, vomiting, and mental disturbances of varying severity. Three major theories have been presented regarding toxemia: (1) interference with the normal functions of the skin, (2) changes in the blood, and (3) absorption of some toxic substance from the site of the burn. The last theory is the one generally held by surgeons. Therefore, the rational method would seem to be to prevent the absorption of toxic products as by the coagulation of tissue devitalized by the burn. Tannic acid applied in 2½ per cent strength appears to do this through its astringent action. Upon removal of the tannic-acid compress, one sees a dry, slightly darkened surface, which remains slightly adherent to the underlying tissues and prevents the loss of body fluids while acting as a natural protective dressing. The patient is given a relatively large hypodermic dose of morphin sulphate (for an average adult ¼ grain) when first seen. Blisters are opened, dry sterile gauze applied and held in place by a sterile bandage. This is then kept saturated with the tannic-acid solution. In large burned areas, a 5-per-cent solution has been used to obtain more immediate coagulation. At the end of 24 hours, the burned area has assumed a light brown color, when all dressings are removed. If the surface is still red and moist, the tannic-acid compresses are continued until there is coagulation. The burn is thereafter exposed to the air, but is carefully protected from mechanical injury, chilling, and bacterial invasion by a cradle draped with sterile linen. About the eyes, face, and also in minor burns, 5 per cent tannic acid in lanolin and vaseline has been used. Fluids are forced into the body energetically by all avenues. By the above means there

occurs (1) lessened toxemia, (2) relief of pain, (3) marked limitation of secondary infection, and (4) lessening of scar-tissue formation.—F. C. Davidson, Henry Ford Hospital, Detroit. *National Safety News,* XIII, 3: 33-34, Feb., 1926.

Silicosis Among Miners.—This special bulletin of 23 pages with the addition of ten plates showing silica dust, radiograms, and laboratory apparatus, discusses early investigations of silicosis throughout the world, its prevalence, and the conditions promoting it. The effects of rock dust on the lungs, the stages of the disease, the methods of determining dust in the air, and the methods of protection against the dust are detailed. Silicosis is also known as "miners' phthisis" or "miners' consumption." The disease, found especially among metal miners, is due to breathing very fine rock dust of high silica content, which dust is somewhat soluble in the body fluids, thereby supporting the theory that its effects are due to its poisonous action, although the sharp-edged particles are held by some physicians as a chief factor of damage. The shortest period of exposure is 2½ years, and the average exposure 7½ years, before the disease develops. The author describes three stages: (1) symptoms and signs, but no incapacity for work; (2) definite signs, with partial incapacity for work; (3) specific signs which are or have been present, but the capacity for work seriously and permanently impaired. "The cardinal symptom of silicosis is shortness of breath, especially on exertion. The cardinal sign is diminished expansion of the chest. Both are slight in the early stages, and increase gradually with development of the disease. Other symptoms and signs, as coughing, frequent colds, pains in the chest, and x-ray findings, are very important in making a diagnosis." Men with silicosis are more susceptible to tuberculosis than normal men. They can improve in suitable surroundings to recovery in the first stage, can improve materially in the second stage, and somewhat in the third stage.—E. R. Sayers, U. S. Bur. of Mines, *Tech. Paper 372,* 1925, Washington, D. C.

Industrial Dermatoses.—These afflictions cause great loss of time, as well as a marked lessening of the workman's productivity. Cole and Driver conclude that quite one-fifth of all skin diseases result from occupational hazards. R. Prosser White estimates that 18,750 cases of occupational eczema occur annually in England alone. The Ohio State Department of Health reports for 1921-1923 state that of 3,267 occupational diseases recorded, 2,197 were designated as "dermatitis." The causal factors lie both in the physical characters of the workplace and the physiologic characteristics of the individual worker. Very frequently, following an initial occurrence of dermatosis, the individual becomes hypersusceptible to the causal hazards. Statistics seem to show that those who have oily or moist skins are most susceptible.

Industrial dermatoses as a rule begin on the hands, and then spread to the arms, face, and neck. They usually begin suddenly, have a rapid course, and show a sharply outlined area, with many types of lesions. The author believes that one variety of ringworm—called Epidermophyton—is constantly mistaken for an industrial dermatosis, and that 80 per cent of refractory cases of occupational dermatoses are due to this organism. The infection is worse in summer months, in high temperatures, and persists after removal of the patient from the occupational hazard, so that dermatologists are taking the stand that all eczemalike skin lesions of the hands and feet are to be considered epidermophytosis until proved not to be. The feet are very frequently involved also. The organism is easy to find by placing a skin scraping under the microscope, as in the usual method for identifying the spores and mycelial threads of ringworm. Another condition to be differentiated is the "feigned" eruption in which a deliberate malingerer or a psychopath keeps up the irritation by self-mutilation. Yet some cases, once started, may be kept up on a purely nervous basis. These artificial eruptions are usually on skin areas readily accessible to the right hand, and are usually peculiarly shaped, with sharp borders and angular or linear markings, due to some instrument or agent.—G. W. Wende, *Proc. Ninth Annual N. Y. State Indust. Safety Congress,* N. Y. State Dept. of Labor, Albany, Dec., 1925. pp. 209-214.

Sickness Among 133,000 Industrial Employees.—Although statistics of sickness incidence based upon the reports of industrial mutual benefit associations on cases causing disability for eight consecutive days or longer are understatements of the amount of serious illness actually occurring, on account of the common practice of refusing cash benefits for the venereal diseases and for certain other causes of disability, they do afford some knowledge of the relative frequency of different diseases in a sample of the industrial population of the country.

Influenza and grip were not so prevalent in 1924 as in either 1922 or 1923, but still remained the leading cause of disability lasting 8 days or longer. Nonindustrial accidents were the second most frequent cause in each of the last 3 years, and the rate appears to be steadily increasing. Respiratory diseases accounted for 47 per cent of all the cases of sickness reported during the last 5 years. Less disability was reported in January, February, and March, 1924, than in the same months of each of the four preceding years. The frequency of 8 days' or longer disabilities was 44 per cent higher among female than among male industrial employees, although the comparison included only those diseases which are common to both sexes. The men in the establishment which had the highest sickness rate for the 3 years ending December 31, 1924, experienced nearly 3½ times as many cases as the men in the plant which had the lowest illness rate.

There was appreciably more sickness reported among men employed in public utilities than in iron and steel manufacturing and in a group of miscellaneous industries; and the frequency of certain diseases varied considerably according to the industry. In iron and steel manufacturing there were relatively few diseases of the nervous system reported, and the incidence rate for bronchitis and for influenza and grippe was low. On the other hand, a higher rate was found for certain epidemic and infectious diseases, such as smallpox, typhoid fever, and malaria, and the pneumonia rate among iron and steel workers was well above its frequency in the other industries included in the study. Sickness severity rates for the year 1924 under three different benefit periods indicate that certain disease groups, such as diseases of the nervous system, of the circulatory system, and of the genito-urinary system, are much more important from the standpoint of the amount of time lost from work than from the standpoint of their frequency of occurrence. "Influenza and grip," however, are important from both points of view. No general tendency toward longer incapacitation appears to be in evidence under longer benefit periods.—D. K. Brunadge, *Pub. Health Rep.,* 41, 4: 113-131, Jan., 1926.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade Building
Pittsburgh, Pa.

SECRETARIES' CONFERENCE

The Twenty-first Annual Conference of the Secretaries of the Component County Medical Societies will be held in the Bellevue-Stratford Hotel, Tuesday, October 12, 1926, at 5:15 p. m. The conference will be followed by a dinner at 6:45 p. m. The program for the conference will be published in the September JOURNAL.

NONMEMBERS—WHY?

Interested members of county medical societies in discussion frequently deplore the apparently great number of physicians who are not members of any county society, forgetting that approximately fifteen per cent of medical graduates living in a given county may have good reasons for not uniting with or continuing active in the medical society of the county.

Conditions in Franklin County well illustrate the point. In the May number of the *Call and Roster,* Secretary Thrush of the Medical Society of Franklin County publishes the names and addresses of members and nonmembers, fifty-two of the former and twenty-one of the latter, at first glance apparently a discouraging disproportion. But in listing nonmembers, Dr. Thrush records the following facts regarding the twenty-one registered physicians outside the society: eleven are not in practice—four having retired on account of age and two on account of ill health, and five are in other vocations; one other is an advertising quack, reducing the proportion between members and *eligible* nonmembers to fifty-two to nine.

We believe Franklin County's record well illustrates two points: first, in the average county fifty per cent of the physicians *outside* the medical society are not in active practice, ten per cent are not desirable, and forty per cent are slackers who should unite; second, the Medical Society of Franklin County has a good secretary—he observes the requirements of Section 10 of Chapter VIII of our By-Laws: "The Secretary of each component county medical society shall keep a roster of its members and of the non-affiliated registered physicians of the county .....and in making his annual report he shall endeavor to account for every physician who has lived in the county during the year."

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since June 14th. Figures in the first column indicate county society numbers; second column, State Society numbers.

June 21	Philadelphia	2021-2042	7396-7417	$110.00
	Northampton	135	7418	5.00
	Wayne	26	7419	5.00
23	Westmoreland	156	7420	5.00
24	Blair	94	7421	5.00
July 1	Lackawanna	193-203, 205-211	7422-7439	90.00
2	Chester	66-67	7440-7441	10.00
3	Lancaster	135	7442	5.00
6	Northampton	136	7443	5.00
7	Schuylkill	142	7444	5.00
	Erie	122-129	7445-7452	40.00
8	Allegheny	1252, 1263-1271	7453-7462	50.00
13	Lehigh	112	7463	2.50
	Cumberland	36	7464	5.00
	Luzerne	274	7465	5.00
14	Philadelphia	2043-2062	7466-7485	100.00

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes in membership have been reported to July 15:

ADAMS: *Removal*—Henry P. Goeken, from New Oxford to Hanover, (York Co.).

ALLEGHENY: *New Members*—Alonzo Carpenter, 2126 Fifth Ave., Thomas R. Quinn, 1833 Shaw Ave., A. D. Gillespie, West Penn Hospital, Pittsburgh. Raymond N. Wilson, 4th and 9th Sts., New Kensington, Carl B. Campbell, Russellton, Elizabeth Hampson, 271 Atlantic Ave., Mt. Lebanon, Ben F. Finegold, Canton, Ohio, Jeannette Cohen, 213 Caldwell Bldg., Wilkinsburg. *Death*—Elliott S. Riggs, Washington (Jeff. Med. Coll. '69), May 2, aged 83.

COLUMBIA: *Death*—Willett P. Hughes, Bloomsburg (Univ. of Penna. '97), April 26, aged 55.

Delaware: *Death*—Richard C. Cassellberry, Chester (Hahnemann Med. Coll. '03), July 4, aged 49.

Erie: *New Members*—Elmer G. Shelley, 33 Gibson St., Mary K. Heard, 41 W. Main St., North East, Boyd Ghering, Edinboro.

Fayette: *Death*—George R. Glass, Uniontown (Coll. Phy. & Surg., Baltimore '91), June 22, aged 59. *Removal*—Milton H. Cloud from Uniontown to Uledi.

Franklin: *Death*—J. Franklin Raine, Sykesville (Coll. Phy. & Surg., Baltimore '05), June 4, aged 57.

Indiana: *Removal*—Edward A. Haegele from Clymer to Heilwood; James C. Glasser from Dixonville to 143 S. Spring St., Blairsville.

Lackawanna: *Death*—William W. Myer, Old Forge (Univ. of Penna. '95), aged 53.

Lawrence: *Death*—Robert G. Boak, New Castle (Univ. of Pgh. '96), July 4, aged 53.

Lebanon: *Resigned*—Frank A. Rutherford, Lebanon.

Lehigh: *New Member*—Edgar M. Blew, Allentown State Hospital, Allentown.

Luzerne: *Death*—John T. Howell, Wilkes-Barre (Jeff. Med. Coll. '81), June 16, aged 76. *Resigned*—Dennis E. Szabo, removed from Wilkes-Barre to New Jersey.

Lycoming: *Removal*—Edward Everett from Masten to Dushore (Sullivan Co.).

Mercer: *Death*—Beriah E. Mossman, Kansas City, formerly of Greenville (Univ. of Penna. '79), June 26.

Monroe: *Death*—Alvin A. Wertman, Tannersville (Jeff. Med. Coll. '89), aged 63.

Montgomery: *Death*—Oliver C. Heffner, Pottstown (Jeff. Med. Coll. '85), June 14, aged 71.

Northampton: *New Member*—Douglas H. Vastine, Wind Gap.

Philadelphia: *New Members*—Elmer V. Eyman, 111 N. 49th St.; Mary H. Easby, 2123 Locust St.; Morris Elkins, 1339 N. 13th St.; Chauncey M. Depew Harllee, 5819 Arch St.; Richard C. Holcomb, U. S. S. Mercy, Navy Yard, League Island; Charles Franklin Branch, 4931 Locust St.; Eleazer D. Sarkis, 5350 Baltimore Ave.; Louis W. Schwindt, 1416 N. 4th St.; Charles Stewart, 840 E. Stafford St.; Gordon F. Willey, 5936 Carpenter St.; Frederick Augustus Bothe, 4042 Chestnut St.; Anna E. Gaydos, 991 N. Fifth St.; Albert M. Morton, 703 N. 44th St.; Herbert J. Darmstadter, 4617 York Road, Philadelphia. *Death*—John A. Brophy (Med. Chir. Phila. '97), aged 61.

Schuylkill: *New Member*—Martin O. Blechschmidt, Frackville.

Westmoreland: *New Member*—Alfred J. Porter, W. Otterman St., Greensburg.

COMMITTEE ON PUBLICITY

S. A. Brumm, *Chairman*
Philadelphia, Pa.

MORE NEWS OF THE SESSION

I think it was Johnson who said "We either know a thing ourselves or know where we can find it"; so, if I may paraphrase, if there is anything you do not already know about the State Medical Convention to be held in Philadelphia October 11th to 14th, consult your Publicity Committee, and they will be glad to tell you all.

It has been our aim to keep you informed of what is to take place at the State Convention, to remind you of your moral obligations, and to inform you how unfortunate it will be for you if you fail to attend.

Here are a few more things we are doing for your comfort and welfare during your stay in Philadelphia:

The Woman's Medical Club of Philadelphia will give a subscription dinner at the Bellevue-Stratford, October 12th at 7:30 p. m., the cost per plate to be $3.50. Mail check to Dr. Esther M. Weyl, 757 N. Twentieth Street, Philadelphia, Pa.

In September the *Roster* staff will publish a special souvenir issue of the *Roster*.

COMMITTEE ON SCIENTIFIC WORK

Thomas G. Simonton, *Chairman*
Pittsburgh, Pa.

THE PROGRAM OF THE SECTION ON DERMATOLOGY

The program of the Section on Dermatology at the coming meeting of the Medical Society of the State of Pennsylvania, at Philadelphia, on October 13th, comprises papers and slide presentations of some of the most common dermatologic diseases, and hence will be of particular value to the practicing physician. For example, pruritus, a very common skin disease, at times most recalcitrant to treatment, is the subject of one of the papers. The subject of leg ulcers will be presented, with particular reference to treatment. A lantern-slide presentation of drug eruptions will be made. In this regard, it should be recalled that many of the relatively new drugs produce rather unusual eruptions. Again, the variable untoward cutaneous manifestations of arsphenamin and neoarsphenamin, and recently those of bismuth, are of vital importance to all physicians treating syphilis. A prominent New York dermatologist will present lantern slides of ringworm involving different areas of the cutaneous surface. It can appropriately be recalled that the clinical features of ringworm are very variable, depending upon its location, and at times very difficult to diagnose. It is erroneous to visualize ringworm as a "ringed lesion" easily cured by tincture of iodin. This portrays only one type which is easily diagnosed and easily cured. Ringworm of the hands and feet is one of the commonest parasitic infections in adults, closely simulating eczema of these parts, for which it is frequently mistaken.

The important phases of dermatology of internal causation in childhood will be shown by lantern slides. Many skin diseases are but expressions of a systemic involvement which closely correlates dermatology with internal medicine. This will be essentially the theme of another paper. Finally, hyperemias of the skin associated with internal disorders are the subject of another presentation, concluding this program of practical dermatology.

OFFICIAL TRANSACTIONS

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

SEVENTY-SIXTH ANNUAL SESSION, PHILADELPHIA, OCTOBER 11-14, 1926

SCIENTIFIC PROGRAM

GENERAL MEETING

BALL ROOM, BELLEVUE-STRATFORD HOTEL

Tuesday, October 12, 10 A. M.

Call to order by the President.

IRA G. SHOEMAKER, Reading.

Invocation.

THE RIGHT REVEREND THOMAS J. GARLAND, D.D., Bishop, Diocese of Pennsylvania.

Address of Welcome.

THE HONORABLE W. FREELAND KENDRICK, Mayor, City of Philadelphia.

Address of Welcome.

MOSES BEHREND, President, Philadelphia County Medical Society.

Presentation of Program.

THOMAS G. SIMONTON, Pittsburgh, Chairman of the Committee on Scientific Work.

Announcement of Entertainments.

GEORGE A. KNOWLES, Philadelphia, Chairman of the Committee on Arrangements.

Introduction of Delegates from Other Societies.

Installation of the President-Elect.

President's Address.

HARRY W. ALBERTSON, Scranton.

Address by the President of the American Medical Association.

WENDELL C. PHILLIPS, New York (by invitation of the Board of Trustees).

Stenographer—MISS F. E. DILLAN, Hume-Mansur Building, Indianapolis, Ind.

(Note—Essayists will please deposit original copies of their papers with the Secretary of the meeting when they have finished reading them. The Journal will not accept carbon copies.)

(Note—The ringing of the bell, announcing the beginning, the division, and the conclusion of each 55-minute period, is beyond the control of the presiding officers. Ample warning of this fact, with frequent reference to time allotted, has been given all who appear on the program.)

Wednesday, October 13, 9 A. M.

9-9:55 A. M. Cardiac Decompensation.

(Lantern Demonstration.)

Presented by the Pennsylvania Heart Association.

Etiology (10 minutes).

EDGAR M. GREEN, Easton.

OUTLINE. Primary causes are those of ordinary heart disease, such as focal infection, acute rheumatic fever, syphilis, etc. Secondary or final causes are secondary infections and defective elimination, myocardial weakening, overexertion, renal disease, etc.

Symptomatology (10 minutes).

CHARLES H. SMITH, Uniontown.

OUTLINE. Early manifestations of cardiac decompensation as seen by the general practitioner. Digestive disturbances frequently considered as such are really important cardiac phenomena. The more common and later symptoms.

Diagnosis and Prognosis (10 minutes).

JOHN B. MCALISTER, Harrisburg.

OUTLINE. What factors determine the deterioration of heart power and endurance? Why and when do hearts fail under normal living conditions? Clinical and preventive medicine are unmistakably challenged to detect the early symptoms of a failing heart before heart failure ensues. Diagnosis considered under five headings: (1) acute infectious heart diseases, (2) syphilitic heart diseases, (3) renal arteriosclerotic type of heart disease, (4) neurotoxic heart disease, (5) congenital and anatomic heart disease.

Treatment (10 minutes).

ANDREW P. D'ZMURA, Pittsburgh.

OUTLINE. Etiology and degree of disability should determine management, measures, and therapy to be employed. Treatment of various types of heart failure outlined.

Discussion (15 minutes).

GEORGE W. NORRIS, Philadelphia; WM. G. FALCONER, Clearfield; THOMAS MCMILLAN, Philadelphia; and AARON S. CANTOR, Scranton.

10-10:55 A. M. Case Reports

(5 minutes each)

1. Diverticulum Simulating Appendicitis; X-Ray Demonstration (Lantern Demonstration).

   ALVIN W. SHERRILL, Pittsburgh.

2. A Case of Pneumococcic Meningitis Simulating Diabetic Coma, with Recovery.

   ALBERT E. ROUSSEL, Philadelphia.

3. Melanosarcoma with Multiple Metastases to the Brain (Lantern Demonstration).

   HAROLD L. MITCHELL, Pittsburgh.

4. Osteomyelitis Followed by Calcareous Resorption and Deposit in Soft Tissues (Lantern Demonstration).

   FREDERICK D. WEIDMAN, Philadelphia.

5. Gonococcus Infection with Rare Manifestations (Lantern Demonstration).

   THOMAS T. SHEPPARD, Pittsburgh.

6. A Case of Coronary Thrombosis, with Lantern Slides Demonstrating the Injected Coronaries, the Electrocardiogram, and Pathologic Specimens.

   JOSEPH B. WOLFFE, Philadelphia.

7. Pruritus as a Symptom of Vagatonia (Lantern Demonstration).

   JOSEPH V. KLAUDER, Philadelphia.

General Discussion (20 minutes).

11-11: 55 A. M. Periodic Health Examinations

Presented by the Committee on Public Relations of the Medical Society of the State of Pennsylvania.

Responsibility for Life Extension (10 minutes).

WALTER F. DONALDSON, Pittsburgh.

OUTLINE. Origin of the movement. Demand for its continuance. Some necessary contributions on the part of members of the medical profession to assure successful extension.

The Technic of Periodic Health Examinations (15 minutes).

ORLANDO H. PETTY, Philadelphia.

OUTLINE. A health-survey service which does not inquire into the subjects of food, exercise, personal hygiene, and mental attitude towards life, is not a health examination but an ordinary physical examination. The physical examination should be searching and complete, covering all parts and functions of the body; yet this alone is not of great benefit. We must search for all errors in the life of the applicant, as well as physical defects and predisease tendencies.

Opportune Recommendations for the Examinee (15 minutes).

LAWRENCE LITCHFIELD, Pittsburgh.

OUTLINE. (1) If in perfect health. (2) If showing symptoms suggestive of organic disease or indicating functional disturbance. (3) If showing positive evidence of serious pathology. General advice about dieting, weight, exercise, periodicity of health examinations (made preferably by the family physician), and visits to a competent dentist. Reference to best available physician or dentist of examinees who profess to have none. Moral responsibility of the examiner to be sure that urgent conditions are promptly met by proper measures.

Practical Demonstration by Cinematograph (15 minutes).

12 Noon-12: 55 P. M.

Cardiovascular Syphilis (55 minutes). (Lantern Demonstration.)

ALFRED S. WARTHIN, University of Michigan, Ann Arbor, Mich. (By invitation.)

OUTLINE. The pathologic and clinical aspects of syphilis of the heart, aorta, and smaller blood vessels are illustrated from the abundant material of the Pathological Laboratory and the University Hospital of the University of Michigan. The relationship of the pathology to the varying clinical forms of cardiovascular disturbances and the significance of the pathologic changes coincident with the carrying of the Spirochæta pallida in the tissues are shown by illustrative material. The histologic changes constituting the evidence of the presence of the spirochete in myocardium and vessel walls are described in detail, with slides showing the relationship of spirochetes to these lesions. Cardiovascular syphilis, considered rare by many clinicians, is shown to be relatively frequent in the autopsy material of certain hospitals.

Thursday, October 14, 2 P. M.

2-2: 55 P. M.

Experience with the Malarial Treatment of Syphilis (Lantern Demonstration).

SIGMUND GREENBAUM, Philadelphia, *Principal* (20 minutes).

OUTLINE. Historical basis of treatment; results achieved abroad; personal results in paresis, tabes, cerebrospinal, and congenital syphilis; contraindications; method of inoculation; period of incubation; clinical course of induced malaria; caution against use of coal tar and analgesics; complications; cure of the malaria.

Discussion by J. FRANK SCHAMBERG, Philadelphia, *Associate* (15 minutes).

General Discussion (20 minutes).

3-3: 55 P. M.

A Motion-Picture Presentation of a Case of Multiple Personality (25 minutes).

CORNELIUS C. WHOLEY, Pittsburgh, *Principal.*

OUTLINE. Brief discussion of case; comparison with well-known Beauchamp case of Dr. Morton Prince. History of young woman shown in motion picture. Screen presents original personality; two secondary personality states; a regression to childhood; trancelike, or transitional states.

The Nature of Hysteria (15 minutes).

GEORGE W. SMELTZ, Pittsburgh, *Associate.*

OUTLINE. Psychopathological mechanisms involved: conflict; dissociation as an attempt at adjustment. Evaluation of somatic, or physical foci.

General Discussion (15 minutes).

Opened by MAX WEINBERG, Pittsburgh.

4-4: 55 P. M.

Blair Bell Treatment of Cancer (55 minutes).

FRANCIS CARTER WOOD, New York City.

SECTION ON MEDICINE

BALL ROOM, BELLEVUE-STRATFORD, *Tuesday and Thursday;* PHILADELPHIA GENERAL HOSPITAL, *Wednesday*

OFFICERS OF SECTION

Chairman—O. H. PERRY PEPPER, 906 Medical Arts Bldg., Philadelphia.

Secretary—W. W. G. MACLACHLAN, 200 S. Craig St., Pittsburgh.

Executive Committee—ROY R. SNOWDEN, Pittsburgh; CHARLES F. FALKOWSKY, Scranton; ADAM J. SIMPSON, Chester.

Stenographer—MRS. IRENE HILTON SNYDER, 1641 Marshall Field Annex, 25 East Washington St., Chicago, Ill.

(Note—Essayists will please deposit original copies of their papers with the Secretary of the Section when they have finished reading them. The Journal will not accept carbon copies.)

(Note—The ringing of the bell, announcing the beginning, the division, and the conclusion of each 55-minute period, is beyond the control of any officer or member of the section. Ample warning of this fact, with frequent reference to time allotted, has been given all who appear on the program.)

In each 55-minute period in the Medical Section, essayists are allotted a total of 40 minutes, and general discussion 15 minutes.

Tuesday, October 12, 2 P. M.

BALL ROOM, BELLEVUE-STRATFORD

2-2: 55 P. M. Bronchial Asthma

Hypersensitive Phenomena.

J. ALEXANDER CLARKE, JR., Philadelphia, *Principal.*

OUTLINE. Classification of hypersensitive phenomena in man and animals. Differentiating points in the human form. Passive transfer of the skin reaction to normal individuals. Characteristics and specificity of the transferable bodies (reagins). Neutralization of these bodies.

Disease of the Upper Respiratory Tract in Relation to the Etiology and Treatment of Bronchial Asthma.

SIMON S. LEOPOLD and GEORGE FETTEROLF, Philadelphia, *Associates.*

OUTLINE. The incidence of sinus infection in asthmatics and nonasthmatics. The importance of sinus infection in the etiology of bronchial asthma. Its occurrence in both atopic and nonatopic cases. Other types of nasal pathology associated with asthma. Illustrative case reports. Results of treatment.

The Interpretation of Skin Tests in the Diagnosis of Bronchial Asthma.

RICHARD A. KERN, Philadelphia, *Associate.*

OUTLINE. Skin reactivity, the most valuable single aid in the diagnosis of human hypersensitiveness. But skin reactivity does not run parallel to either intensity or type of clinical picture, and therefore may lead the unskilled into error. Thus, a skin test may be positive to a substance causing no symptoms, so that significance of skin reactions depends on clinical tests. Possibility that in some cases of true hypersensitiveness specific skin reactivity may be absent; suggestive clinical examples. The reading of the reaction; variations in reactions in different individuals, in the same individual, and by different technic.

3-3: 55 P. M. The Relation of Bacteriology to Clinical Medicine

The Significance of Regional Bacteriologic Flora.
DEWAYNE G. RICHEY, Pittsburgh, *Principal.*

OUTLINE. The author mentions those bacteria which are found under normal and certain abnormal conditions in the more important regions of the skin, and the upper respiratory, gastro-intestinal, and genito-urinary tracts. The application of these findings to the prevention, etiology, and treatment of various clinical conditions is made.

The Clinical Use of Blood Cultures.
WILLIAM R. MARSHALL, Pittsburgh, *Associate.*

OUTLINE. The technic of blood cultures is given, along with the findings in a series of 3,000 cases. The value of blood cultures in various clinical conditions is discussed, as is the interpretation of negative and contaminated cultures.

The Incidence of Pneumococcus Types in Pneumonia.
JOSEPH W. MCMEANS, Pittsburgh, *Associate.*

OUTLINE. The presentation is based on an analysis of a large number of determinations of pneumococci typed from sputa and blood cultures. A comparison with similar investigations is made, and the high incidence of the pneumococcus (type IV) in Pittsburgh is emphasized.

4-4: 55 P. M. The Pathology of Function.

HOWARD T. KARSNER, Cleveland, Ohio (by invitation).

Wednesday, October 13, 2-5 P. M.

Medical Clinic at the Philadelphia General Hospital, Thirty-fourth and Pine Sts., conducted by staff members.

(Program for the Clinic will be distributed in Philadelphia.)

Thursday, October 14, 9 A. M.

BALL ROOM, BELLEVUE-STRATFORD

9-9: 55 A. M. Case Reports.

(Five minutes each)

1. Deep X-Ray Therapy in Brain Tumor.
   MAX H. WEINBERG, Pittsburgh.
2. Pneumococcic Septicemia.
   ELLIS M. FROST, Pittsburgh.
3. Tremor of the Diaphragm.
   ELLIOTT B. EDIE, Uniontown.
4. Hemorrhagic Pancreatitis.
   GEORGE A. CLARK, Scranton.
5. Multiple Focal Infection, and the Complete Medical Survey in Relation Thereto.
   FRANCIS A. FAUGHT, Philadelphia.
6. Toxic Nephritis Treated by Renal Decapsulation.
   GEORGE L. ARMITAGE, Chester.
7. Pyloric Syndrome in Extragastric Disease.
   J. QUINCY THOMAS, Norristown.
8. Acute Lymphatic Leukemia, with Atypical Terminal Symptoms.
   EDGAR S. BUYERS, Norristown.

10-10: 55 A. M. Practical Therapeutics

Intravenous Therapy.
JAMES I. JOHNSTON, Pittsburgh, *Principal.*

OUTLINE. Strong scientific appeal for this method of administration. Abuse of the method and of the drugs and solutions used. Widespread use of common and unusual preparations without adequate appreciation of the risk run or the results to be obtained. Causes of severe reactions and their risk, and how most of these can be avoided. Discussion of some therapeutic remedies administered by this method.

Newer Diuretics.
ROY R. SNOWDEN, Pittsburgh, *Associate.*

OUTLINE. The newer conception of diuresis is the appreciation of the fact that there is a fundamental physiologic fault responsible for the retention of fluid or waste products, and that this should be corrected in the most rational manner possible. A brief résumé is presented of the conditions which result in retention, and of the therapeutic procedures most efficacious in overcoming these conditions. Particular attention is given to the replacement of sodium in the tissues by other radicles, such as ammonium, and also to the results of the administration of novasurol.

Iodin Therapy in the Treatment of Goiter.
FREDERICK B. UTLEY, Pittsburgh, *Associate.*

OUTLINE. History of iodin therapy in the treatment of goiter. Class of cases suitable for iodin therapy. Preparations to be used. Method of administration. Amount of iodin to be given. Contraindication for use of iodin in goiter. Dangers of iodin therapy.

11-11: 55 A. M. A Critical Review of Encephalitis

Symptomatology of the Residuals of Epidemic Encephalitis.
WILLAM H. MAYER, Pittsburgh, *Principal.*

OUTLINE. Encephalitis, no matter how mild the acute attack may be, presents residuals which are often a distressing problem. The management, care, and economic adjustment of these cases is a very serious consideration. In the acute phase, the question of lumbar puncture, at frequent intervals, must be considered with cautious care. It must be remembered that this disease is usually a violent inflammation of nerve tissues out of proportion to the symptoms presenting. There has been a gradual change in the clinical picture from the time of the acute epidemic to the sporadic case which is seen at the present time.

The Clinical Manifestation and the Problem of Acute Encephalitis, From the Internist's Viewpoint.
WALTER M. BORTZ, Greensburg, *Associate.*

OUTLINE. The historical data on encephalitis takes us back to the treatment by Hippocrates. It was not separated from the meningitides until about 1820. There are numerous varieties included under the heading of encephalitis. The symptoms are of a great variability; the early recognition and diagnosis is often an interesting problem. The treatment of the acute phase is one which requires attacks from many angles. Prophylaxis is a subject which can be discussed more fully in the light of recent experience.

The Pathology and Bacteriology of Epidemic Encephalitis.
ALBERT J. BRUECKEN, Pittsburgh, *Associate.*

OUTLINE. Epidemics of the latter centuries were probably identical, though morphological confirmation is lacking. (1) Morbid Anatomy: Brain stem chiefly involved, but brain, cranial nerves, spinal cord, and peripheral nerves may show lesions. Examination may show no recognizable alteration, and congestion may be the only finding. Lesion closely resembles that of rabies and is nonsuppurative. Usually less intense than epidemic poliomyelitis. Acute and chronic forms. Cerebrospinal-fluid examination absolutely imperative, but is not diagnostic. (2) Transmissibility. Confusion in interpretation. Variable results. Relation to influenza, herpes, and other cerebrospinal diseases. (3) Bacteriology. Filtrable virus resembling that of epidemic poliomyelitis. Other forms of encephalitis due to well-known pathogenic bacteria. (4) Relation of lesions to clinical phenomena.

12 Noon-12: 55 P. M.

Pernicious Anemia (55 minutes).
Francis W. PEABODY, Boston, Massachusetts (by invitation).

SECTION ON SURGERY

ROOF GARDEN, BELLEVUE-STRATFORD, *Tuesday;* BALL ROOM, BELLEVUE-STRATFORD, *Wednesday;* PHILADELPHIA GENERAL HOSPITAL, *Thursday*

OFFICERS OF SECTION

Chairman—JAMES H. BALDWIN, 1426 Pine St., Philadelphia.

Secretary—ALBERT F. HARDT, 414 Pine St., Williamsport.

Executive Committee—HAROLD L. FOSS, Danville; GEORGE M. DORRANCE, Philadelphia; WILLIAM L. ESTES, JR., Bethlehem.

Stenographer—MRS. M. C. REPP, 926 S. 60th Street, Philadelphia, Pa.

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Tuesday, October 12, 2 P. M.

Roof-Garden, Bellevue-Stratford

2-2: 55 P. M. Symposium on Thoracic Surgery

The X-Ray Diagnosis of Empyema (Lantern Demonstration). (10 minutes.)

Byron H. Jackson, Scranton, Pa., *Associate.*

Outline. The normal chest. Landmarks. Heart. Normal position. Displacement. Increase in intercostal spaces. Curve of upper level of the fluid. So-called water line. Changes in shape of curve. Water line, when complicated by pneumothorax. Interlobar empyema. In encapsulated empyema, curved border is always directed inwards. Three types: axillary, diaphragmatic, mediastinal. Mediastinal empyema often obscured by heart dullness. Importance of lateral views, especially in encapsulated empyema. Fluoroscopic examination combined with roentgenograms.

The Surgical Management of Empyema (15 minutes).

Ethan Flagg Butler, Sayre, *Associate.*

Outline. Limitation of discussion to postpneumonic empyema. Importance of bacteriologic diagnosis. Mechanics and physiology of normal respiration. The effect of pneumonia and of pleural exudate on vital capacity. Need of caution during preoperative period. Desirability of boldness in operative attack. Advisability of intimate personal control during entire postoperative convalescence.

The Bronchoscope as an Aid in the Diagnosis and Treatment of Pulmonary Infections (15 minutes). (Chalk talk and Lantern Demonstration.)

Chevalier Jackson, Philadelphia, *Principal.*

Outline. Class of cases in which the bronchoscope may contribute to diagnosis and to localization. Report of cases in which the surgeon has called upon us for aid in diagnosis. Report of cases in which bronchoscopic drainage was advised by the surgeon. Reasons for believing that, excluding foreign-body cases, the bronchoscopist is not best qualified to determine class of case in which bronchoscopic treatment is indicated.

Discussion by George P. Muller, Philadelphia.
Lever F. Stewart, Clearfield.

General Discussion.

3-3: 55 P. M. Symposium on Gynecology

Endometrial Hematomata of the Ovary (12 minutes). (Lantern Demonstration.)

Floyd E. Keene, Philadelphia, *Principal.*
R. A. Kimbrough (by invitation).

Outline. Mode of origin. Consideration of the various manifestations of endometrial transplants. Symptomatology, diagnosis, and treatment.

When Shall We Treat Retroflexio-Version of the Uterus and How? (12 minutes.)

Brooke M. Anspach, Philadelphia, *Associate.*

Outline. Retroflexio-version of uterus when it gives rise to symptoms should receive treatment. It is often difficult to distinguish between symptoms produced by uterine displacement and those produced by other associated or disassociated conditions. What symptoms may be correctly ascribed to retroflexio-version? Differential diagnosis. Variations in treatment.

The Rubin Test in the Diagnosis and Treatment of Sterility in Women (12 minutes). (Lantern Demonstration.)

Paul Titus, Pittsburgh, *Associate.*

Outline. Oviduct insufflation is an important diagnostic measure in the study of sterility. In certain spastic or catarrhal conditions of the tubes it often proves to be of direct therapeutic value in that the passage of gas through the tubes is frequently followed by pregnancy where a relative sterility had existed until then. Brief résumé of technic of procedure; occasional dangers of Rubin's test; demonstration of apparatus.

Discussion by Sidney A. Chalfant, Pittsburgh.
Richard C. Norris, Philadelphia.

General Discussion.

4 to 4: 55 P. M.

Bone Tumors (55 minutes). (Lantern Demonstration.)

Joseph Colt Bloodgood, Baltimore, Md. (by invitation).

Wednesday, October 13, 2 P. M.

Ball Room, Bellevue-Stratford

2-2: 55 P. M. Symposium on the Thyroid Gland

The Physiology of the Thyroid (20 minutes).

Edward C. Kendall, Mayo Clinic, *Principal* (By invitation).

Outline. The determination of the basal metabolism is still the most significant quantitative measure of thyroid disturbance. In addition to changes in the basal metabolism, Plummer has pointed out the significance of nervous symptoms in exophthalmic goiter, and their control with Lugol's solution. The hypersensitive status in the exophthalmic-goiter patient is due not only to an alteration in the basal metabolism, but also to a change in nervous irritability, the exact cause of which has not yet been shown. Investigation of thyroid disturbances has now passed beyond the hands of the clinician and surgeon, and the problem must be carried on by the chemist and physicist. Coöperation of the clinician and surgeon with the research investigation of the gland has and will continue to produce results which will decrease the mortality to a minimum, and give the patient the best diagnosis and treatment in each individual case. A brief outline will be given of some of the most important chemical facts resulting from the research work carried out with the thyroid.

Diagnosis of Thyroid Disease (10 minutes).

David Riesman, Philadelphia, *Associate.*

Outline. Inspection and palpation of neck should be part of every physical examination. In young girls, thyroid enlargement is of no serious significance; it rarely progresses. In adults, one must distinguish between simple and toxic goiter, and between adenoma and general parenchymatous enlargement. The basal metabolic rate is always raised in toxic goiter. Clinical features, however, are more important than the metabolic rate. In toxic goiter, diagnosis of the state of the circulation is of great importance. Auricular fibrillation, cardiac enlargement, and signs of decompensation indicate myocardial and circulatory impairment, and are signs of grave significance. Cardiac enlargement, with gradual impairment of function, may be found in large simple goiter of long standing. Various tests for thyroid intoxication have been proposed, but are not of great value. In the last analysis, a knowledge of the clinical picture and clinical course is of greatest help in diagnosis.

The Treatment of Goiter (10 minutes).

Harold L. Foss, Danville, *Associate.*

Outline. Present status of goiter prophylaxis. Endemic goiter and the colloid goiter of adolescence. Adenoma of the thyroid and its treatment. The use of iodin. The present status of the surgical treatment of exophthalmic goiter. The treatment of carcinoma of the thyroid. The vogue of Lugol's solution; its value in preoperative preparation of the patient. The dangers of its promiscuous use.

Discussion by James D. Heard, Pittsburgh.
Donald Guthrie, Sayre.

General Discussion.

3-3: 55 P. M. Symposium on Industrial Surgery

Problems in the Treatment of Superficial Burns (10 minutes). (Lantern demonstration.)

I. S. Ravdin, Philadelphia, *Associate.*

Outline. Early treatment. Causes of death. Methods of avoiding toxemia. The problem of repair.

Hernia in Its Relation to the Compensation Law (10 minutes).

Roger P. Batchelor, Palmerton, *Associate.*

Outline. The law, discussions, and interpretations as rendered by referees and boards of appeal, especially with

reference to the emphasis placed upon contributory factors. Etiology of hernia. Literature. Methods of study. A special reference to the comprehensive study by Wainwright. The saccular theory. Analysis of physical findings in 2,500 men, with reference to variations in the inguinal structures and the subsequent changes developing over a period of seven years. The incidence of hernia among this group. Hernias in twins. Survey of histories given by a group of patients coming for operation, not included in the above group. Conclusions.

The Treatment of Cranial Trauma (10 minutes).
LYNDON HOLT LANDON, Pittsburgh, *Principal.*

OUTLINE. The treatment of cranial trauma is based upon the character and extent of injury and the clinical symptoms as they present definite indications for early immediate operation. The nonoperative, watchful, conservative treatment. Value of lumbar puncture in diagnosis and in treatment. The contraindications to lumbar puncture. The use of hypertonic salt solutions. The necessity and value of prolonged mental and physical rest in the prevention of late after effects.

Physiotherapy and Its Rôle in Rehabilitation of the Injured (10 minutes).
E. H. REBHORN, Scranton, *Associate.*

OUTLINE. Physiotherapy, by war experience, became of proven value as an aid in after treatment of traumatic cases. The physical agents from which the therapeutic effect is derived are electricity, water, heat, and exercise. The physiology of soft-tissue action plus the physiology of tissue reaction to the physical reagents determine the effects of physiotherapy. The results in the Moses Taylor Hospital physiotherapy department show a definite shortening of the disability period of the cases under treatment. Diathermy is active by reason of heat penetrating equally throughout the tissues of the part treated. Dry heat from large therapeutic lamps and bakers proves efficient in stimulating circulation, and must be aided by hydrotherapy and massage. Hydrotherapy, by reason of its stimulation to peripheral-nerve reflexes, increases circulation, and it is of value only when combined with heat and massage. Exercise is the real heart of physiotherapy.

Discussion by LOYAL A. SHOUDY, Bethlehem.
SAMUEL P. MENGEL, Wilkes-Barre.
General Discussion.

4-4: 55 P. M. Case Reports
(5 minutes each)

1. Acute Suppurative Appendicitis with Acute Suppurative Cholecystitis.
WILLIAM A. HAUSMAN, JR., Allentown, Pa.
2. Acute Perforated Gastric Ulcer and Treatment.
LLOYD G. COLE, Blossburg, Pa.
3. An Unusual Case of Hernia in an Infant.
JOHN W. BRUNER, Bloomsburg, Pa.
4. Comminuted Fracture of the Ilium with Ruptured Kidney.
GEORGE W. REESE, Shamokin, Pa.
5. Inoperable Urethrovesicovaginal Fistula Cured by Simultaneous Double Ureteral Transplantation into Pelvic Colon by Coffey Technic.
CARLYLE N. HAINES, Sayre, Pa.
6. Intestinal Obstruction Caused by a Meckel's Diverticulum.
WALTER C. SHAW, Ridgway, Pa.
7. Labor Complicated by a Large Ovarian Cyst.
JOHN B. NUTT, Williamsport, Pa.
8. Congenital Pyloric Stenosis (2 Cases).
NORMAN B. SHEPLER, Harrisburg, Pa.

Thursday, October 14
8: 30 A. M.-1 P. M.

Dry clinic at the Philadelphia General Hospital, Thirty-fourth and Pine Streets, conducted by Staff members.
(20 minutes for presentation of each case and 10 minutes for discussion)

8: 30 to 9 Complications of Surgical Tuberculosis.
J. TORRENCE RUGH.

9 to 9: 30 Demonstration of a New Forceps for Delivery of the After-coming Head.
EDMUND B. PIPER.

9: 30 to 10 Plastic Surgery of the Face.
ROBERT H. IVY.

10 to 10: 30 Tumor of the Cervical Region of the Spinal Cord.
THOMAS A. SHALLOW.

10: 30 to 11 Radium in the Treatment of Neoplasms.
JOHN B. CARNETT and HENRY K. PANCOAST.

11 to 11: 30 Management of Strictures and Gonococcus Arthritis.
THOMAS C. STELLWAGEN.

11: 30 to 12 Obstetrical Problems.
CLIFFORD B. LULL.

12 to 12: 30 General Surgical Problems.
T. TURNER THOMAS.

12: 30 to 1 End Results of Pylorectomy and Atypical Hernias.
HUBLEY R. OWEN.

SECTION ON EYE, EAR, NOSE AND THROAT DISEASES

MEDICO-CHIRURGICAL HOSPITAL, *Tuesday;* JUNIOR ROOM, BELLEVUE-STRATFORD, *Wednesday;* SOUTH ROOF GARDEN, BELLEVUE-STRATFORD, *Thursday.*

OFFICERS OF SECTION

Chairman—NELSON S. WEINBERGER, Sayre.

Secretary—ROBERT F. RIDPATH, 1928 Chestnut St., Philadelphia.

Executive Committee—S. MACCUEN SMITH, Philadelphia; GLENDON E. CURRY, Pittsburgh; WILLIAM H. SEARS, Huntingdon.

Stenographer—MISS F. E. DILLAN, Hume-Mansur Building, Indianapolis, Ind.

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Tuesday, October 12, 2-4: 55 P. M.

MEDICO-CHIRURGICAL HOSPITAL, Eighteenth and Cherry Streets

Dry Clinic
(10 minutes to each demonstrator)

Clinical Demonstration.
NATHAN P. STAUFFER, Philadelphia.

Temporosphenoidal Abscess, with Operation and Recovery.
MATTHEW S. ERSNER, Philadelphia.

Bilateral Posterior Lenticonus.
WILLIAM G. SHEMELEY, Philadelphia.

Simple and Effective Plastic-Flap Method for the Radical Mastoid Operation.
HENRY DINTENFASS, Philadelphia.

Postencephalitic Paralysis of Downward Movement and of Convergence.
WARREN S. REESE, Philadelphia.

Chronic Frontal Sinusitis (Bilateral) with Fistula of Seven Years' Duration. Cure.
Samuel R. Skillern, Philadelphia.

Retro- and Peritonsillar Sarcoma.
Lewis S. Dunn, Philadelphia.

A Type of Severe Nasal Hemorrhage—A New Method of Control.
Herman B. Cohen, Philadelphia.

Another Possible Function of the Sinuses.
Henry A. Laessle, Philadelphia.

Some Recent Clinical Observations.
Frederick M. Strouse, Philadelphia.

Case of Vertical Alternating Strabismus.
Sidney L. Olsho, Philadelphia.

Clinical Demonstration.
T. B. Halloway, Philadelphia (by invitation).

Effect of Light and Color on Glaucoma and Cataract.
Kate W. Baldwin, Philadelphia.

Frontal Sinusitis Resulting in Retrobulbar Neuritis.
Robert J. Hunter, Philadelphia.

Interstitial Keratitis with Rapid Clearing of Corneal Opacities from the Injection of Pregal Solution.
Alice V. MacKenzie, Philadelphia.

Wednesday, October 13, 2 P. M.

Junior Room, Bellevue-Stratford

2-2: 55 P. M.

The Intensive Use of Dionin in Ophthalmology (20 minutes).
Edward Stieren, Pittsburgh, *Principal.*

Outline. A short history of the introduction of dionin into ophthalmic therapeutics, and an account of the experimental work of investigators. The indications for its use and the method of obtaining maximum results in corneal opacities.

Observation on the Intensive Use of Dionin (20 minutes).
Jay G. Linn, Pittsburgh, *Associate.*

General Discussion (15 minutes).

3-3: 55 P. M.

Relationship of Ophthalmology to Immunology (55 minutes).
Conrad Berens, New York, N. Y. (by invitation).

4-4: 55 P. M.

Hemangioma of Orbit (40 minutes).
Glendon E. Curry, Pittsburgh, *Principal.*

Outline. Large orbital tumor causing marked exophthalmos of slow development and no definite traceable cause. Malignancy could not be excluded prior to operation. Pathological examination demonstrated vascular nature of tumor. Comparatively easy removal without resorting to Krönlein operation or removing any of the orbit wall.

General Discussion (15 minutes).

Thursday, October 14, 9 A. M.

South Roof-Garden, Bellevue-Stratford

9-9: 55 A. M.

A Study of the Superficial and Deep Lymphoid Tissues of the Hypopharynx (20 minutes).
John B. McMurray, Washington, *Principal.*

Outline. (1) Lymphatic tissue of the lateral wall of the hypopharynx. (a) When hypertrophied, should this lymphatic tissue be removed? (b) After a tonsillectomy, does this lymphatic tissue become a source of focal infection if not removed? (2) Lingual tonsil. (a) Pathologic conditions and their etiology. (b) Symptomatology. (c) Treatment. (3) Retropharyngeal abscess. (a) Etiology. (b) Treatment. (c) Complications occurring subsequent to drainage. (d) Pathologic conditions involving the superficial lymph glands of the retropharynx.

The Anatomical and Histological Study of the Superficial and Deep Lymphatics of the Hypopharynx (20 minutes).
Clarence A. Crumrine, Washington, *Associate.*

General Discussion (15 minutes).

10-10: 55 A. M.

Diagnosis of Lateral-Sinus Infection (55 minutes). (Lantern Demonstration.)
George L. Tobey, Jr., Boston, Mass. (by invitation).

11-11: 55 P. M. Case Reports
(10 minutes each)

1. Double Mastoiditis with Lateral-Sinus Thrombosis, Following Scarlet Fever.
H. Hershey Farnsler, Harrisburg.

2. Sphenopalatine-Ganglion Treatment of Certain Nose Conditions, Demonstrating a New Needle for Injecting This Ganglion.
Walter D. Chase, Bethlehem.

3. Atypical Mastoiditis.
William Hardin Sears, Huntingdon.

4. Carcinoma of the Tonsil.
Walter E. Brown, Pittsburgh.

5. A Report on Recent Inventions Directed Toward the Relief of the Problems of the Deafened.
Douglas Macfarlan, Philadelphia.

12-12: 55 P. M.

Nose, Throat, and Ear Findings in Over Eight Thousand Freshmen College Students.
Philip S. Stout, Philadelphia, *Principal.*
R. Tait McKenzie, Philadelphia, *Associate.*
Charles Wharton, Philadelphia, *Associate* (by invitation).
E. Baldwin Gleason, Philadelphia, *Associate.*
Douglas Macfarlan, Philadelphia, *Associate.*

Outline. Brief outline of method of examination. Difficulties in making hearing tests. What constitutes a diseased tonsil and what constitutes a healthy tonsil. Number operated on for excision of tonsils before coming to college. Number of diseased tonsils found. Improvements after operations for diseased tonsils. Number of nasal obstructions (deflected septums, polyps, etc.) Number of sinusitis cases. Latent mastoiditis cases. External-ear deformities. Number of cases with impacted cerumen.

SECTION ON PEDIATRICS

Children's Hospital, *Tuesday;* Roof Garden, Bellevue-Stratford, *Wednesday;* Junior Room, Bellevue-Stratford, *Thursday.*

Officers of Section

Chairman—Horace H. Jenks, 918 Clinton St., Philadelphia.

Secretary—Zaccheus R. Scott, Westinghouse Bldg., Pittsburgh.

Executive Committee—J. Claxton Gittings, Philadelphia; Robert K. Rewalt, Williamsport; Theodore J. Elterich, Pittsburgh.

Stenographer—Mr. T. F. Arnold, 721-27 Real Estate Trust Building, Philadelphia, Pa.

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Tuesday, October 12, 2 P. M.

Clinic at Children's Hospital, Bainbridge and Eighteenth Streets

2-2: 55 P. M.

Discussion of Some Methods of Infant Feeding and of Food Preparation (40 minutes).

J. P. CROZER GRIFFITH, Philadelphia, *Principal.*

Open discussion (15 minutes).

3-3: 55 P. M.

Anemias of Childhood (Lantern Demonstration). (20 minutes.)

J. CLAXTON GITTINGS, Philadelphia, *Principal.*
WALTER BLAIR STEWART, Atlantic City, N. J., *Associate* (by invitation).

Intestinal Parasites (20 minutes).

ARTHUR D. WALTZ, Philadelphia, *Associate.*
JOHN D. DONNELLY, Philadelphia, *Associate.*
ERNEST L. NOONE, Philadelphia, *Associate.*

Open discussion (15 minutes).

4-4: 55 P. M.

A Comparison of the Clinical Diagnosis of Pneumonia in Infants with the Results of X-Ray Examination and with the Findings at Autopsy (Lantern Demonstration).

ALFRED HAND, *Philadelphia,* Principal.

Exhibition of Patients Presenting Rare Conditions.

(a) Diaphragmatic Hernia.
(b) Three Brothers with Muscular Dystrophy.
(c) A Three-Year-Old Girl Recovering from Rheumatoid Arthritis.
(d) Diaphysical Acclasia.
(e) Two patients. Diagnosis given after presentation.

RALPH S. BROMER, ARTHUR D. WALTZ, and J. J. REILLY, *Associates.*

Wednesday, October 13, 2 P. M.

SOUTH ROOF-GARDEN, BELLEVUE-STRATFORD

2-2: 55 P. M. Symposium on Scarlet Fever

Etiology, Diagnosis, and Nonserum Treatment (20 minutes).

JAMES K. EVERHART, Pittsburgh, *Principal.*

OUTLINE. Historical. Confusion of early investigators. Specific cause. Susceptibility. Immunity. Atypical cases; differential diagnosis. Outline of medical treatment. Treatment of complications. Frequency of complications.

Serological Treatment (20 minutes).

FRANK H. RIMER, Pittsburgh, *Associate.*

OUTLINE. History of the discovery of the cause of scarlet fever and the development of the serological treatment. Permanent protection against a future exposure. Temporary protection against a present exposure. Curative treatment.

Open discussion.

3-3: 55 P. M.

Summer Diarrhea in Infants (40 minutes).

ROBERT K. REWALT, Williamsport, *Principal.*
J. GIBSON LOGUE, Williamsport, *Associate.*

OUTLINE. Factors concerned in the etiology of summer diarrhea. Symptomatology and diagnosis. Various foods used in the treatment. Value of protein milk. Advantages of suddenly changing from protein to carbohydrate food. Life-saving value of intraperitoneal injections of normal salt solution. Drugs. Vaccines.

Open discussion (15 minutes).

4-4: 55 P. M.

Focal Infections in Children (55 minutes).

A. GRAEME MITCHELL, Cincinnati, Ohio (by invitation).

OUTLINE. A consideration of the parts of the body acting as possible foci of infection in children. The relation of focal infection to systemic infection. The types of systemic disease that may develop. The frequency of focal infection and its end results in children. The effects of treatment and the eradication of foci of infection upon systemic infection.

Thursday, October 14, 9 A. M.

JUNIOR ROOM, BELLEVUE-STRATFORD

9-9: 55 A. M.

Traumatism and Its Effect on the Normal Development of the Nervous System in Children (25 minutes). (Lantern Demonstration.)

CHARLES H. HENNINGER, Pittsburgh, *Principal.*

OUTLINE. Meningeal and cerebral hemorrhages. Brain injuries: (a) severe concussion; (b) associated with fracture of the skull. Birth injuries of the spinal cord resulting from breech presentation. Prognosis. Treatment.

Orthopedic Treatment of Cerebral Spastic Paralysis (15 minutes).

WILLIAM O. MARKELL, Pittsburgh, *Associate.*

OUTLINE. Treatment divided into two stages: first stage, prevention of contractures; second stage, time to operate. Type of operation best suited to the case. Neurectomy, tendon transplantation, and tendon lengthening.

Discussion (15 minutes).

10-10: 55 A. M. Symposium on Encephalitis and its Effect on the Behavior of Children

An Intensive Study of a Group of Postencephalitic Boys in a Hospital School (15 minutes). (Lantern Demonstration.)

DANIEL H. FULLER, Philadelphia, *Associate.*

OUTLINE. A description is given of a group of boys averaging ten years of age as they were observed for nearly two years in a hospital. Prominent points are their progress in school and in habit formation, and the intensive medical and psychological examinations.

Diagnosis of Postencephalitic Conditions (15 minutes).

EDWARD A. STRECKER, Philadelphia, *Associate.*

OUTLINE. The importance of early recognition of encephalitis in children, and the frequent variations from the accepted clinical pictures. Special point will be made of the paucity or absence of acute symptoms.

General Considerations of Encephalitis as they Affect the Medical Profession (15 minutes).

EARL D. BOND, Philadelphia, *Principal.*

OUTLINE. The above described class of children is the only one of its kind, and it has shown definitely good results. Some of the methods of treatment developed may be applied by the general practitioner, and may be expected to reduce the post-encephalitic behavior disturbances. As the number of these is rapidly increasing in Pennsylvania, support should be given to the state hospital in providing special classes for them.

Discussion (10 minutes) opened by ADAM J. SIMPSON, Chester.

11 to 11: 55 A. M. Case Reports

(1) Rat-Bite Fever (5 minutes). JAMES L. FOSTER, Pittsburgh.

(2) Persistent Tachycardia in a Three-Year-Old Child (5 minutes).

WILLAM F. MAYER, Johnstown.

(3) An Unusual Case of Appendicitis in a Child (5 minutes).

FRANK KEAGY, Altoona.

(4) Enlargement of the Liver in a Three-Year-Old Child with a History of Alcoholism (5 minutes).

THEODORE J. ELTERICH, Pittsburgh.

(5) Bromid Eruption with Scarring (Lantern Demonstration) (5 minutes).
Frederick M. Jacob, Pittsburgh.

(6) Thymic Death in a Case with no Previous Symptoms and X-Ray Negative (5 minutes).
Daniel E. Berney, Scranton.

(7) Pennsylvania's Progress in Diphtheria (5 minutes).
J. Bruce McCreary, Chief of Bureau of Child Health, Harrisburg.

(8) The Supervision of Midwives in the Coal Region (5 minutes).
Mary Riggs Noble, Chief of Preschool Section, Bureau of Child Health, Harrisburg.

12 Noon-12: 55 P. M.

The Purpuric Diseases in Childhood (55 minutes).
Isaac A. Abt, Chicago (by invitation).

SECTION ON DERMATOLOGY

Junior Room, Bellevue-Stratford

Officers of Section

Chairman—Fred D. Weidman, 20 Darby Road, Llanerch.

Secretary—Joseph V. Klauder, 1934 Spruce St., Philadelphia.

Reporter—The Master Reporting Company, 37 West Thirty-ninth St., New York, N. Y.

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Tuesday, October 12, 2 P. M.

2-2: 55 P. M. Symposium on Dermatology in Relation to Internal Medicine

Dermatologic Leads to Internal Medical Diagnosis (15 minutes).
Lorraine L. Schwartz, Pittsburgh, *Principal.*

Outline. Dermatology is essentially a highly specialized branch of internal medicine. Most diseases of the skin are cutaneous expressions of a more serious underlying constitutional reaction. Consideration of a cutaneous lesion purely from a cosmetic standpoint is gross carelessness, and labels the dermatologist as a beauty specialist rather than a physician. Correct interpretation of such a lesion may lead to some asymptomatic, however grave, underlying condition. Common cutaneous reactions to constitutional pathology are skin pigmentations in carcinoma and tuberculosis; lupus erythematosis and the toxic erythemas in focal infection; cutaneous syphilis associated with cardiovascular, osseous, visceral, or cerebrospinal syphilis; acne in endocrine or gastro-intestinal disorders, etc.

The Etiology and Treatment of Generalized Pruritus (15 minutes).
Carroll S. Wright, Philadelphia, *Associate.*

Outline. Relationship of generalized pruritus to internal medicine. A study of cases of obscure etiology, with a report of chemical blood studies in a series of private cases. The treatment of cases of unknown etiology.

Drug Eruptions (25 minutes). (Lantern Demonstration).
William H. Guy, Pittsburgh, *Associate.*

Outline. Acute or chronic inflammatory eruptions due to the internal administration of drugs of various kinds. The frequency of such complications in general therapy as the result of proprietary medication, and freak cases. Active and predisposing causes. Symptoms. Reference to the large group of drugs that may interchangeably produce the same type of eruption, and a few drugs that produce more or less characteristic clinical pictures. Simulation of other conditions, rendering differential diagnosis of utmost importance. Pathology and treatment.

3-3: 55 P. M.

Some Fungus Infections of the Skin and Appendages (55 minutes). (Lantern Demonstration.)
Howard Fox, Professor of Dermatology, Bellevue Hospital Medical College, New York City (by invitation).

Outline. Common diseases of the skin, hair, and nails caused by hyphomycetes (molds). Clinical types. Differential diagnosis. Direct microscopic examination of fungi. Cultures and hanging-drop preparations. Treatment.

4-4: 55 P. M.

Diseases of the Skin in Childhood of Internal Causation (25 minutes). (Lantern Demonstration.)
Frank C. Knowles, Philadelphia, *Principal.*

Outline. The common diseases produced by internal conditions are discussed. The type of eruption of internal cause is discussed. A description is given of the character of the outbreak. The distribution and the course of the cutaneous eruption.

Hyperemias of the Skin Associated with Internal Conditions (15 minutes).
Abram Strauss, Philadelphia, *Associate.*

Outline. Need of closer coöperation between the internist and dermatologist. Undoubted relation between cardiac, renal, and organic diseases and hyperemias of the skin. The rôle of the ductless glands and metabolism. Foci of infection as an etiologic factor. Some suggestions as to treatment.

Leg Ulcers (15 minutes).
John W. Barr, Johnstown, *Associate.*

Outline. Common leg ulcers: The chronic ulcer associated with varicose veins, eczema, traumatism, ecthyma, and syphilis. The less common ulcers: Bazin's disease, scleroderma, Hanson's disease, sporotrichosis, coccidial granuloma, dermatitis factitia, and radiodermatitis. Predisposing and immediate causative factors. Clinical features and differential diagnostic points. Principles of treatment. Prevention, overcoming infection, relieving edema, or "draining the bog." Complete rest and ambulatory methods—advantages and disadvantages of each; ulcer kit; aiding granulation and epithelization; prevention of recurrences. Special methods of therapy: Baden's incubator method, Hollander's method, Unna's sealed dressing, the new Davis therapy, and ultraviolet ray.

County Society Reports

CAMBRIA—JUNE-JULY

The regular meeting on June 10th was held in the Y. M. C. A. building, Johnstown, President L. W. Hornick presiding.

Dr. W. C. Raymond read a paper on "The Hemorrhages of Pregnancy," which he summarized as follows: (1) Hemorrhage in the pregnant woman is always pathologic. The laity should be taught, in the presence of bleeding, to go to bed at once, and call a physician. (2) In cases of presumed abortion, ectopic pregnancy should always be ruled out. (3) In septic abortion, unless there is reason to suspect that the infection has passed beyond the uterus, operative rather than expectant treatment is desirable. This is particularly so in the presence of continued bleeding. (4) The fear of sepsis should not deter the physician from packing, in hemorrhagic conditions of late pregnancy. Exsanguination promotes sepsis by lessening the woman's resistance. Before removal to the hospital, in the presence of active hemorrhage she should be firmly tamponed.

In a paper on "The Treatment of Hyperemesis Gravidarum by the Intravenous Injection of Glucose and Carbohydrate Feedings," Dr. Arthur Miltenberger reported 33 cases treated by this method. These cases were classified in three groups: 20 mild, or those with more or less nausea and some vomiting; 7 moderately severe, or those in which the patient was ill most of the day with persistent vomiting, but not in a serious condition; and 6 serious, or those in which the patient

was emaciated and dehydrated, with beginning nephritis, acidosis, and jaundice.

In mild cases, the patients are fed seven times a day. The diet consists of cooked fruits, dates, raisins, green vegetables, crackers, cookies, honey, sugar, and desserts such as puddings, custards, and ices. They are also given two ounces of a solution of 10 per cent lactose and 2 per cent soda every two hours during the day.

Moderately severe cases should be treated in a hospital. Two daily enemas are given, morning and evening, followed in a short time by chloral gr. x, and bromid gr. xxx, per rectum. A solution of 5 per cent glucose and 2 per cent soda bicarbonate is administered by proctoclysis as continuously as possible. Intravenous injections of 25 per cent glucose are given once to twice daily, depending on the indications and response to treatment.

The treatment of the pernicious type is the same as for the moderately severe, except that it is applied more vigorously. Glucose (25 per cent) is administered intravenously at once, and repeated one to three times daily. The giving of fluids by mouth must proceed slowly and cautiously.

Ninety per cent of all cases treated were relieved in one to two weeks. Out of six pernicious cases, one had to be aborted. One patient, considered too weak for a therapeutic abortion, died three days after admission to the hospital.

In conclusion, Dr. Miltenberger said: "The use of carbohydrate feeding and glucose intravenously in the treatment of hyperemesis gravidarum is a very efficient method. Isolation in the hospital of the moderately severe and serious cases will bring about better and quicker results."

Dr. Thomas Cush was elected a member of the society. Drs. Edward Pardoe and H. B. Anderson were elected delegates to the State Society, and Drs. W. J. Reddy, Harold M. Griffith, W. C. Raymond, and Ray Parker were elected alternates. Dr. H. F. Tomb was reëlected district censor.

At the regular July meeting, held at Johnstown, Dr. Arthur C. Morgan of Philadelphia was the speaker. At the noon luncheon of the Kiwanis Club he talked on "Periodic Health Examinations," from 3 to 5 p. m., he conducted a clinic at the Memorial Hospital, and was the guest of honor at an informal dinner at the Sunnehanna Country Club, following which he addressed the society on "Acute Cardiac Tragedies."

The speaker divided his subject into three classes—angina pectoris, cardiac thrombi or infarcts, and acute dilatation. These occur more frequently in the higher walks of life. Intensive mental work and a very active life appear to be predisposing factors.

Angina pectoris frequently occurs in an active man in middle life. Treatment consists of a nitroglycerin tablet placed on the under surface of the tongue and crushed. Easily soluble tablets must be used. The action takes place in one minute, and the relief is prompt. Patients should never be without their medicine, and should form the habit of keeping it in the same pocket. Then they will unconsciously reach for it in an emergency. A nitroglycerin tablet crushed under the tongue is better treatment than the use of amyl nitrite in ampules.

Cardiac thrombosis or embolism occurs more frequently in patients from fifty-five to sixty years old. Predisposing causes are a low blood pressure and atheromatosis. In these cases, the arterial lumen is proportionately lessened, and a low blood pressure is trying to force blood through them. In case the blood pressure is still further lowered, the blood passing through the arch is slowed, producing an anemia beyond the constriction. This causes asphyxia and syncope. Fatigue or excitement may bring on an angiospasm of a cerebral artery, causing a momentary unconsciousness. There may be a narrowing of the coronary arteries. In these cases, a fall in blood pressure produces symptoms immediately. When the flow in an artery stops, there is a tendency for it to become blocked. The blockage of a large artery causes sudden death. In smaller arteries, it produces sudden pain and shock. There is a heavy feeling on the chest, and there may be vomiting or hiccoughs. The pain is referred to the stomach, and the patient may be treated for so-called acute indigestion; or he may react, have a slight elevation of temperature and a leukocytosis, and a wrong diagnosis of gall-bladder disease is made. An operation is performed—and the man dies of cardiac thrombosis. The abdominal distention in these cases is due to shock of the splanchnic area. Pituitrin and adrenalin will relieve this vasomotor paralysis, and morphin and atropin will relieve the pain.

Acute dilatation occurs in hearts that have had a previous injury, and are subjected to a sudden strain. The symptoms are vertigo, collapse, cough, and a large amount of salmon-pinkish sputum. The blood pressure falls, the patient must sit up, and has an anxious expression. The treatment consists of atropin and morphin in large doses. Venesection may help by relieving the cardiopulmonary circulation. Digitalis in large doses should be given hypodermically or intravenously. The prognosis is always guarded, and the patients must be prepared for other attacks. The heart is never the same afterwards.

W. B. TEMPLIN, M.D., Reporter.

LEBANON—JUNE

On June 22, the society entertained the Tricounty Medical Society, which is composed of the medical societies of Lancaster, Dauphin, and Lebanon Counties. The meeting was held at the Lebanon Country Club, and was attended by over a hundred doctors and their wives. The entertainment consisted of golf, tennis, and cards. No speaker was engaged for the occasion, and judging by the favorable comments, this feature met with the approval of the members present.

Prizes were awarded for the best score in golf and cards. The prizes in golf were won by Dr. Harvey F. Smith, Harrisburg, and Dr. T. C. Shookers, Lancaster. In cards, Mrs. T. B. Appel, Lancaster, won first prize, and Mrs. Vere Treichler, Elizabethtown, second. The draw prize was won by Mrs. Paul Roebuck, Lancaster.

A short business meeting was held after luncheon, and Harrisburg was selected as the next meeting place. After hearing a short report from each of the counties, the following officers were elected: President, Dr. G. L. Laverty, Harrisburg; secretary-treasurer, Dr. Josiah Reed, Harrisburg.

JOHN D. BOGER, Reporter.

NORTHAMPTON—JUNE

The meeting of June 18th was held at St. Luke's Hospital, Bethlehem, with President C. F. Stofflet in the chair.

Dr. Douglas H. Vastine of Wind Gap was elected a member of the society. Drs. F. C. Roberts of Easton,

and W. L. Estes, Jr., of Bethlehem, were elected delegates to the State Society, and Drs. H. C. Leigh, of Easton, M. W. Phillips, of Chapman Quarries, J. A. Fraunfelder, of Nazareth, and P. H. Walter, of Bethlehem, were elected alternates.

Superintendent C. C. Davis welcomed the members of the society in the name of the trustees of the Hospital. He discussed the work done by the hospital, and told of some of the plans for increasing its usefulness in the future. The clinical program was as follows:

"A Case of Cardiac Decompensation" by Dr. Samuel Alter. A graphic chart of Dr. Alter's own invention showed in an interesting manner the progress made by the patient toward recovery.

"Congenital Hydronephrosis" by Dr. W. L. Estes, Jr. A pyelogram and the patient himself served to illustrate this paper.

"Toxic Adenoma of the Thyroid, Developing After Hysterectomy" was discussed by Dr. D. K. Santee, who showed the course of the case from a quiet adenoma of the thyroid, through a stormy period of toxicity, to a complete recovery following surgical intervention.

"Juvenile Exophthalmic Goiter" by Dr. F. J. Dever. This little girl of five proved to be a specially interesting patient.

After the presentation of the papers, a luncheon was served by the hospital.

Arthur B. Hamilton, M.D., Reporter.

NORTHWESTERN PENNSYLVANIA—JUNE

The third annual meeting of the Northwestern Pennsylvania Medical Association was held Monday, June 21, at Warren, at the Woman's Club House. Dinner was served to a mixed audience of 130, of whom 90 were physicians, representing Warren, McKean, Crawford, Venango, Erie, and Mercer Counties.

Dr. Elmer H. Funk, of Philadelphia, substituted as speaker for Dr. Thomas McCrae, who was unable to attend on account of illness. In speaking of a few everyday problems of interest to the general practitioner, Dr. Funk urged, when digitalis is used, its prolonged administration in good-sized doses, preferring the tincture or infusion to any of the newer forms, the criterion for its use being the heart-muscle inefficiency. He decried the indiscriminate employment of drugs intravenously, and doubted very much whether better results are to be obtained by this method than by the mouth. There is nothing to prove that because salvarsan is usually given intravenously, sodium iodid or the numerous other drugs now so given are more active intravenously than by mouth.

Acute rheumatism should be considered, not as a joint affection or an arthritis, but rather as a disease of the myocardium, and rest for a long time after the fever is an important factor in preventing permanent heart lesions. Seldom are the joints permanently affected. In regard to intrathoracic troubles, we should be more careful in sorting out lung cases. Among 1,200 so-called advanced cases of tuberculosis, a careful diagnosis deleted 72, or 6 per cent, that were not tuberculous; and of 55 autopsies on so-called advanced cases, in 11 per cent no tuberculous lesions were found. Cancer of the lung, aneurysm, and syphilis are some of the diseases liable to be mistaken for tuberculosis.

Dr. David N. Dennis of Erie was elected president; C. J. Frantz of Warren, vice-president, and M. V. Ball of Warren, Secretary and Treasurer.

M. V. Ball, M.D., Reporter.

YORK—JULY

The regular monthly meeting was held in the Professional Building, York, at 9 p. m., July 1st, with the president, Dr. C. W. Frey, in the chair.

Dr. George E. Holtzapple read a report of the Committee on Public Policy and Legislation, in which the repeal of the Sheppard-Towner Act was recommended. The report was adopted.

Dr. P. A. Noll reported for the Medical Economics Committee to the effect that periodic health examinations should be performed by the various physicians in York County for a fee of not less than $5.

Dr. W. Newton Long read a paper entitled "Glandular Tuberculosis, with Special Reference to its Treatment with Ultraviolet Light."

W. Newton Long, M.D., Reporter.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

Mrs. W. Wayne Babcock, *Editor*
Rydal, Pa.

TREASURER'S REPORT

The following is the report of the Treasurer of the Woman's Auxiliary of the Medical Society of the State of Pennsylvania to June 15, 1926:

County	*Members*	*State*
Allegheny	245	$245.00
Beaver	48	48.00
Berks	26	26.00
Bucks	31	31.00
Butler	26	26.00
Chester	23	23.00
Fayette	58	58.00
Lancaster	..	8.00
Lebanon	17	4.25
Lehigh	53	53.00
Mifflin	20	20.00
Montgomery	..	8.00
Montour	9	9.00
Northumberland	16	16.00
Philadelphia	183	183.00
Potter	11	11.00
Westmoreland	30	7.50
		$776.75

Mrs. F. R. Bausch, *Treasurer.*

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A SUMMARIZED REPORT OF THE THIRD TRISTATE CONFERENCE

The third meeting of the officers from the New Jersey, New York, and Pennsylvania State Medical Societies was held at the Philadelphia County Medical Society Building on the afternoon of Monday, June 21, 1926. Dr. Ira G. Shoemaker and Dr. Harry W. Albertson alternately presided, and Dr. Frank C. Hammond acted as secretary.

The three States were represented by the following:

New Jersey: Dr. J. B. Morrison, secretary, Dr. Andrew F. McBride, Chairman of the Welfare Committee, Dr. Henry O. Reik, Editor and Executive Officer, each of the Medical Society of the State of New Jersey; Dr. Charles B. Kelly and Dr. Alexander MacAlister, respectively president and secretary of the Board of Medical Examiners of New Jersey.

New York: Dr. George M. Fisher, president, Dr. Joseph S. Lawrence, Executive Officer, Dr. H. F. Hourigan, Chairman of the Committee on Workmen's Compensation, each of the Medical Society of the State of New York; and Dr. Harold Rypins, Secretary of the New York State Board of Medical Examiners.

Pennsylvania: Dr. Ira G. Shoemaker and Dr. Harry W. Albertson, respectively president and president-elect, Dr. Arthur C. Morgan, Chairman Committee on Medical Legislation, Dr. L. F. Stewart, Chairman Commission on Workmen's Compensation, each of the Medical Society of the State of Pennsylvania; Dr. Frank C. Hammond, editor of the Atlantic Medical Journal; Dr. George H. Meeker, dean of the Graduate Medical School of the University of Pennsylvania; Dr. Moses Behrend, president, Philadelphia County Medical Society; Dr. William H. Hillegas, member of the Board of Medical Education and Licensure of Pennsylvania; and Mr. Charles S. Pitcher, superintendent of the Presbyterian Hospital, Philadelphia.

The subjects assigned for discussion by the Conference were: (1) Postgraduate Medical Education in Pennsylvania, (2) The Workmen's Compensation Act, (3) What Can be Done to Render More Uniform the Medical Acts in the Three States? (4) The Qualifications of Nurses and the Regulation of Their Relationship to the Medical Profession.

Dr. George M. Fisher: The Workmen's Compensation Act will be presented by Dr. Hourigan, with the general consensus of opinion in New York State. Dr. McBride, who is your leader in New Jersey, said the opinion in his State is that the general practitioner should be brought in first and foremost in all cases of compensation work, and that the fees of the physician should be commensurate with the work done, which is not always the case in some places. Dr. Hourigan will bring this out more fully in his discussion.

On the uniformity of the medical acts, there is a general opinion that there should be a freer interlacing of the medical laws between these three States, because in them are one fifth of the population of the United States, and perhaps about the same proportion of physicians. We have between one fifth and one sixth of the hospitals, and it only stands to reason in a district so thickly populated and with so many physicians, there should be an interlocking system that would be satisfactory to all three States. We have two of the largest cities in the East, with a great foreign population, and there is always the danger of bringing in, and passing through a lukewarm quarantine, of communicable diseases, and this also should be taken into consideration.

The question of nurses is a most serious problem, and it has to be met with a great deal of force, and at the same time a great deal of give and take on the part of physicians and nurses. Perhaps the educational system will have to be reorganized to a certain extent, but we hope that our State Committee will formulate something which we can present to the State Educational Department and the Legislative Department in the coming year.

We justly feel very proud of our new Practice Act. The years that have been spent in New York State in fruitless legislation have depressed the entire medical profession. Fortunately, this year a better law was enacted than we had anticipated. A bill was formulated which was approved by our Council and then submitted to the Educational Department, and there it was changed a great deal, resulting in the present Practice Act, which passed the last Legislature by pretty nearly a unanimous vote and then was signed by the Governor. This act is already being enforced, and Dr. Lawrence has told me of instances of Chiropractors gradually vacating. Many of them are removing from their signs the title "Doctor" or "Dr.," which all speaks for progress in our medical work. One feature of the Act may be interesting to you—the physiotherapist clause, which was at first rather doubtfully received, but now seems to be one of its strong points. Under the present law, no physiotherapist can practice without the aid of a doctor. His patients must be sent to him by the physician; and furthermore, he has to pay an annual registration fee the same as the doctors, but is entirely under the doctor's direction. This eliminates another cult, and at the same time it brings a branch of medicine directly under our care.

The discussion on "Postgraduate Medical Education in Pennsylvania" was opened by Dr. George H. Meeker, Dean of the Graduate Medical School of the University of Pennsylvania. The plan of postgraduate instruction in Pennsylvania, so well known to our members, was detailed by Dr. Meeker. It is his belief that the program pursued in certain states, involving paid teachers who go from place to place giving instruction, is of no value. They give out textbook statements which any practitioner may read in his own office. Dr. Meeker considered the plan adopted by the Philadelphia County Medical Society as the latest and best.

In the discussion, Dr. Albertson stated that the Lackawanna County Society is now conducting its third year

of postgraduate teaching. Dr. Fisher referred to the disadvantage of conducting a rural program. In New York, a sum of money has been obtained to defray expenses of conducting postgraduate work before the various county societies. Dr. Meeker stated that it would require $20,000 a year to carry out the scheme in this State. He does not see how the counties can successfully plan postgraduate education without help from medical schools.

DR. ANDREW F. MCBRIDE, Commissioner of Labor of New Jersey, in opening the discussion on the Workmen's Compensation Act, stated in a general way the history of the operation of the law in New Jersey, and stressed some of the changes that have been made through subsequent legislation.

DR. H. P. HOURIGAN: I have here some copies of an amendment to the Compensation Law which was introduced into the Legislature last year at the New York State Capitol, writing the medical profession into the Law. In a general way, the Compensation Law of the State of New York is very similar to the law described by the Commissioner of New Jersey, except that our maximum is about three dollars higher than Jersey, and our minimum is about the same as their original maximum. The medical and hospital services are dependent upon the length of the case.

The doctors have not been satisfied in the State of New York with the carrying out of the different provisions. Cases have been lifted, bills have not been paid, service has not been given right, and there is a lack of coöperation all along the line. We have the family doctor, the insurance doctor, the industrial doctor, and different types of doctors, and all working more or less apart, and there has been a demand in the State Medical Society for some plan that would give the medical societies certain duties to perform, and would give them a certain part in the Compensation Law. A letter was sent broadcast in order to get suggestions as to proposed changes, and it was decided to formulate an amendment to the Law in the State of New York.

DR. MOSES BEHREND: Dr. Albertson said that the doctors in the State of Pennsylvania were asleep when the Workmen's Compensation Act was put through the Legislature, and I have always made the statement that we did not know what this Act was when it was proposed in the Legislature at Harrisburg. The situation in Pennsylvania is chaotic. The Law is interpreted in different parts of the State in a different manner. In Philadelphia and Pittsburgh, the physician and all those who are supposed to benefit by the Act, with the possible exception of the employee, were absolutely ruled against when the insurance carrier or the employer were called upon to discharge their just obligations to those who are giving their service. This applies to a certain extent to the hospital, but not so much as to the physician. In Philadelphia and Pittsburgh we have very little redress in obtaining compensation from the insurance carrier.

The history of the working of the Compensation Law in Pennsylvania is quite important. For the first three months, everybody was paid, all over the State. It did not make a particle of difference, when this law was first enacted in 1915, and amended in 1919 and 1921. For the first three months of 1915, no questions were asked. After that, there was an entire reversal of opinion on the part of insurance carriers who represented the employer. Why this occurred it is impossible to state, and many opinions were expressed at the time, but I think they were not tenable. After the first three months, it was impossible to obtain any compensation in Philadelphia and Pittsburgh through the insurance companies. In the smaller counties up the State, the physicians were paid for their services.

In Philadelphia we had a very good attorney at the time I was Chairman of the Workmen's Compensation Committee, Mr. Hampton L. Carson, who had associated with him Mr. Francis Kent Kane. As a representative of the Philadelphia County Medical Society, I laid the matter before Mr. Carson, and we had a typical case that could have been tried before the Courts, and which would have settled this matter once and for all. That was at least five or six years ago, but, curiously enough, while Mr. Carson accepted our case, and Mr. Kane promised to go the limit to settle our question, Mr. Kane was receiving offers from an insurance company of which he is now chief adjustor, and all these matters came before him. Naturally he could not impartially try our case before the Court, and thus a great deal of time was lost in securing a decision. Then came the well-known Mackey decision that, so long as a case was being treated in a hospital ward, the physician had no right to receive compensation for his work, entirely ignoring the fact that a new class of patients was created when the Compensation Law was enacted. This decision was really a great miscarriage of justice, and an atrocious decision, putting great hardships upon the medical profession, especially those who handle compensation cases on a large scale. After that, we had considerable trouble with the insurance companies.

The Workmen's Compensation Law in Pennsylvania is wrapped up in politics, and wherever politics and medical matters are mingled, it is very difficult to obtain justice. The referees and the Compensation Board are composed of laymen entirely, which is a great mistake. If there were physicians on this Board in addition to lay referees and chairman, I believe the working of the Law would be just, but under the present circumstances, it is impossible for the physician to obtain redress.

The insurance companies act in a very parsimonious way, often reducing the physician's bill by half, and always making some reduction. Naturally, the companies reaped the benefit, and at one time they were declaring dividends of 33 1/3 per cent, and even higher.

Another obstacle to obtaining redress is what is known as the self-insurers. These are the Pennsylvania Railroad, the Philadelphia Rapid Transit Company, and several coal companies throughout the State. These organizations have formed a compact, and it is very difficult to obtain any redress. They practically control labor in Pennsylvania, as well as the Compensation Board. The self-insurers have formed a very strong organization. A few years ago, the State Society Compensation Commission, of which Dr. Stewart is chairman, met several times with the self-insurers in an attempt to modify this law. At the first meeting or two they promised everything that anybody could promise as man to man. At the last meeting they were not so liberal, and absolutely refused to do anything at all for the physician, because they still upheld the Mackey decision that it was impossible for a physician to obtain recompense or compensation for a ward case.

With Dr. Stewart's permission, I shall read a few recommendations which he drafted that would settle the question once and for all, and these are the propositions we put before the self-insurers. First, the hospital shall have definite standing at law. Second, the physician shall have definite standing at law. A physician in Pennsylvania cannot bring suit, as he is not a party at interest at all. Third, provision must be made

for adequate compensation of physicians at the hospitals, regardless of the time when death occurs or the money paid to the undertaker. Fourth, physicians shall be paid for services rendered to compensation cases, regardless of where the service is rendered and regardless of local hospital rules, as the law requires. And that is another correction of the situation in the State. It is very difficult to get the hospital boards of Philadelphia or Pittsburgh, and some of the larger cities up the state, to change their rules concerning ward cases, in reference to compensation cases.

"Unless otherwise provided, the compensation case at the end of 30 days shall become a charity case if methods of investigation approved by the State Welfare Board prove such a case to be a proper case for charity." I think this is one of the most important paragraphs in the suggestions that were made to the self-insurers. "There shall be created three medical boards, consisting of three members each, representing capital, labor, and the medical profession, selected by the Governor, to make a decision as to whether there is a reasonable opportunity of improving the condition of the injured man after the 30-day limit has expired by further hospital and medical attention." "When there is a dispute between the injured man and the employer as to the responsibility for such service, the cost of such service shall not exceed $200 additional."

At the present time, we have several cases before the attorneys of the Medical Society of the State of Pennsylvania, one of which will be selected for trial to test the Mackey decision. It would have been tested several years ago if we had not been double-crossed by our attorney.

Dr. Lever F. Stewart: Dr. Behrend who has been the most militant and helpful member of our Commission, has outlined the most important aspects of the subject. I have been particularly interested in the presentation from the New York State Society, and am eager to know whether those amendments have been passed or not.

Dr. Fisher: They have not.

Dr. Stewart: Our objects are more or less similar. We have approached our problems in a different way and with a different method, but our thoughts have been largely the same. The Compensation Law of New Jersey approaches the ideal, and if all our states could follow in a general way the plan of procedure of the New Jersey Commission, much would be accomplished. When the Commission is presided over by a physician, as in New Jersey in the person of Dr. McBride, the need of a consultant in problems that are purely medical will not arise. In Pennsylvania we have been particularly unfortunate politically, because our aims have been upset by powerful interests. We have then endeavored to approach our object through the Courts, and that has been difficult because the physician has no standing at Court at present.

In the past, it has been ruled by the Compensation Commission that in case death occurs within ten days from the time of injury, $100 is allowed for funeral expenses alone. No medical or hospital expenses have been paid during these first ten days. The State Supreme Court has recently handed down a decision that, "Regardless of the time of death, medical and hospital, as well as funeral expenses, must be paid."

Any progress that is made, any improvement in the law, must be prompted by the object of improving the position of the injured man. If this is effected there will be an improvement in the situation of the physician who cares for the patient.

Mr. Charles S. Pitcher: The Pennsylvania State Hospital Association, the Philadelphia Hospital Association, the American Hospital Association, the Protestant Hospital Association, and possibly others, are working on this subject very actively, and we are agitating through the hospital press. The Consumer's League of Eastern Pennsylvania is working on it now, and in their next publication they will issue a survey they have made of the different hospitals and industries in eastern Pennsylvania. At the next session of the Legislature, the Pennsylvania Hospital Association and the Philadelphia Hospital Association will bring it up very actively.

We have a case of the self-insurer. This man employed a subnormal boy, who has twice been to our place for treatment of injuries. Each time, a bill has been presented, but has not been paid. I took this up with the Workmen's Compensation office in Philadelphia, and they sent me blanks to have the boy fill out. That boy is subnormal, and is under age. His employer has taken him back. I asked the boy and his parents to assign the claim to me, but they would not do it because the boy said he would be fired. We meet with this frequently.

The idea that the physician should not receive compensation because the patient is in the ward is entirely wrong. There are a few of the insurance companies that will pay for over 30 days.

I was talking with some men from New York State. Has the New York State Insurance become bankrupt?

Dr. Fisher: Not unless New York State has.

Mr. Pitcher: These men told me that.

The Jersey Law provides a little more remuneration than the Pennsylvania Law, and it works out somewhat differently; but the Pennsylvania Law is better than some of the others. We had a patient some time ago whose bill amounted to about $175. We had a great deal of trouble in transferring it over to Jersey (this patient developed a mental affection) and they made up to us the surplus above what the insurance carrier paid.

Dr. McBride: Under our Compensation Act in New Jersey, the medical fees and the hospital fees are unlimited under certain conditions. If due notice is given within thirty days to the Compensation Bureau and to the employer that the case is likely to continue longer than that period, unlimited amounts may be secured for both hospital and doctors. The Carrier has the right to insist on the injured individual going to its doctor. If the doctor is not giving the right kind of treatment, according to the opinion of the patient, he can appeal to our Board. We supervise that, and insist on proper service being rendered.

Dr. Stewart: Dr. McBride raises a very interesting question. Roughly speaking, in Pennsylvania the cost per case for medical care ranges between $25 and $40, operating strictly according to the Compensation Law. I should be interested to know the cost per case of medical care in New Jersey, where so much more care is given.

Dr. McBride: Medical bills have been paid up to three or four thousand dollars, medical and hospital bills up to three or four thousand dollars. I do not know what the average is. Some cases run up as high as six and seven thousand dollars.

Dr. Henry O. Reik: I should like to see things brought to some definite point, and wonder if it would be within the bounds of propriety to suggest a presentation of criticisms of the respective state laws. Dr. McBride, for instance, who is experienced in using the law which has been referred to as one of the best in the country, might have some suggestions as to how that

law could be made nearly ideal, and Dr. Hourigan might make suggestions for bringing the New York Law into the same category. Dr. Behrend has already made his suggestions. If they would all submit their criticisms on their respective laws to this Conference, and somebody digest and try to construct a draft that would be as nearly as possible an ideal law, to be disseminated in our respective State Journals, we might hope ultimately to bring about a uniform condition over this big territory.

Would it be possible to have such questions and criticisms submitted—not now, but later—to officers of the Conference, and then some such ideal draft prepared, so that those of us who are engaged in presenting the matter to our respective State Societies would have a definite object to work for regarding this entire territory, and those who are watching legislation in these States would know what to favor, with the idea of bringing about the ultimate uniform condition?

DR. J. B. MORRISON: It seems that the Conference is measuring up to the field that we thought could be investigated. This Conference has no legal standing. I can readily see that the suggestion of Dr. Reik will run into a very considerable expense. I suggest that we go back to the different State Societies, present the results of this conference, and ask permission from each State Society to have the comments of the Conference printed and distributed.

DR. HOURIGAN: I might suggest that the National Industrial Conference Board, 10 E. 39th St., New York, some three or four years ago published a book entitled *Workmen's Compensation Acts of the United States—Medical Aspect* (research report No. 61), which the medical profession of Pennsylvania should read, and find out how many steps they have to climb to reach the average level. It takes in all the different aspects of the subject, and there is no suggestion we might give you to compare with the amount of information in this book. There are some other books issued by the Labor Department in Washington covering compensation laws in this country and Canada.

No question arises in our State about hospital bills or doctor's bills, nor as to the length of time. Judge Hotchkiss, of New York, has said that the Compensation Law in Pennsylvania is more or less of a joke.

DR. MCBRIDE: One of the points in our Act that I should criticise is that regarding medical bills. The Carrier generally furnishes the patient with the doctor in the beginning, but in case it did not, is apt to hide behind the defense that it hired neither the employee nor the physician, while the employer may claim that he did not retain the doctor, and therefore is not responsible for his bills. I would make it impossible to use that defense at all. The injured person must receive attention and treatment just as soon as his condition is discovered, or just as soon as he applies for relief from his injuries. The number of bills that have not been paid is negligible, because we say, "If it is not a strictly legal obligation, it is a moral one, and unless you pay, you cannot expect any sympathy from us," and we invariably secure results.

DR. ALBERTSON: I want to congratulate the gentlemen from New York State and New Jersey on the fact that probably they have been alive to this question for some years longer than we have.

Much as I know of things going on at the Capitol in Harrisburg, until this thing was jammed through, not a single doctor, to my knowledge, knew anything about it. We did not even know that the Bill was intended to be passed. It was pushed through before we knew it, and consequently you can see what we are up against. Our law has all the faults of which yours has been purged in years of experience.

I am most heartily in sympathy with the movement to publish this discussion—Dr. Hammond tells me there will be a report of this conference in the August number of the ATLANTIC MEDICAL JOURNAL—and anything else we can do to arouse interest. It is not so necessary to arouse this interest among our own profession as among the laymen and the powers that be at Harrisburg.

DR. MCBRIDE: We of New Jersey have received great aid from the labor organizations in the State in having our Compensation Act improved, likewise from the Welfare Organizations of the State.

DR. LAWRENCE: If these representatives could prepare in brief the suggestions that have arisen from their own experience with their own laws, and these could be collected somewhere in any of the three States, and simply mimeographed for the present, and distributed to the officers of the three Societies, that would be of value.

Dr. McBride is an ideal commissioner. He has the medical point of view. Our commissioner, who tries hard to be fair with the medical man, has not the medical point of view. It is a very difficult matter for him to see things as Dr. McBride sees them, and the criticisms of Dr. McBride would be invaluable. We should not lose the opportunity.

CHAIRMAN SHOEMAKER: These suggestions are very timely and I believe would result in a great deal of good if they were carried out. We ought not to harp so much on the question of expense. We spend money anyway, and might as well get something out of it. The suggestion of Dr. Reik is very good, and that of Dr. Morrison equally good, and it is only a question of whether or not we shall present a motion at this meeting to go before the different State Societies for ratification. I leave that to you.

So far as our State is concerned, some time ago I took the matter up with our secretary in regard to getting the information from our State Courts as to the legality of Mr. Mackey's opinion. There were several cases presented to our Board of Trustees, which in turn were presented to our Counsel for action. No action was taken, so two weeks ago I wrote to our secretary, urging him to get in touch with Counsel and advise him it would be to his interest and the interest of our Society for him to proceed; that, so far as I was concerned, promises had been made to the profession, and if he was not willing to prosecute the case we would get some one else. I said I was tired of procrastination and wanted something done. His reply quoted a paragraph from a letter from our State counsel, stating that a case had been secured in Harrisburg which would meet all the requirements, and steps would be taken to have a decision on this. I hope, therefore, that in a very short time the case will be argued, and we shall have the satisfaction of knowing the status of Mr. Mackey's decision.

DR. MORRISON: Mr. Chairman, I move that we go before our State Medical Societies and lay before them the significance of these conferences, their mutual importance to the profession in the three states, as well as to the laws of the three states, and suggest that they give us the power to print the results of the conferences at the expense of each State Society, so that the expense is carried for each meeting by each State. The motion was carried.

DR. HAROLD RYPINS: I should like to take the liberty of changing the assigned form of my topic to: "Shall

the Medical Acts of These Three States be Made More Uniform?" Is it advisable to make the laws uniform? The fundamental and predominant object of the Medical Practice Acts is to protect public health, and any other object of the Act is secondary. It is true that there is a corollary which is of benefit to the physician; that is, the Medical Practice Act does constitute a guarantee to the physician, after he shall have gone to the time and expense of qualifying himself by the proper education, that his rights will not be infringed upon by those who are not so qualified. To that extent the object of the Medical Practice Act is the protection of the practitioners of medicine, but we take the position that is a secondary consideration.

Since we now have adequate educational standards, the most important step, and the step that will make the educational law really function, is to permit no one to practice who does not meet these educational standards. In order to do this, we find it necessary to set up machinery for policing the practice of medicine in New York State. This is taken care of by the State Department of Education. We generally have not less than five nor more than seven full-time inspectors whose entire attention must be given to inspection and reporting any illegal practitioners to our Department for prosecution.

The outstanding features by which we hope to make this a really practical plan are as follows:

(1) Annual registration of all physicians. Pennsylvania is a year ahead of us in this, and it made a very valuable argument in our Legislature and helped us to pass our bill, so that now we, too, have an annual registration. By securing our funds from registration fees instead of from the Legislature, we avoid any annual struggle in the Assembly for the weapons of war, so that our income is coming in whether the Legislature is favorable to legitimate medicine or not. We have added to these funds money accruing from office fees and penalties and money from examinations, so that probably we shall have a working fund of approximately $50,000 a year, and it will take almost that sum to do the job adequately.

(2) The Department will publish annually a list of physicians duly qualified to practice in the State, and the burden of proof will be upon any physician whose name does not appear on this list. Dr. Hourigan has suggested that it would be a simple thing for the Board of Censors of each county medical society to take upon itself the duty of comparing the annual official list with the physicians listed in the local telephone directory, and the county society could report any member not on the official list. That would save a great deal of work, and then it would be up to the Department to send out an inspector to get the evidence and see that the prosecution is taken care of.

(3) Another point which we feel will help us a great deal in making our law effectual is to take the prosecutions out of the hands of local district attorneys, and place them in the hands of a deputy attorney general who is paid out of funds of the Educational Department, and whose whole time must be given to the prosecution of illegal practitioners. We found that so much local pressure was brought to bear upon district attorneys that there were practically no prosecutions, but a man whose entire record will rise or fall with his successful prosecution of illegal practitioners will doubtless be as successful as we have been in the same matter of prosecution in all the other professions. It now becomes *prima facie* evidence of the practice of medicine if an individual hangs out a sign with the title "Doctor," or by any means or method holds himself out to the public in any way as being a doctor of medicine. The simplest way for a quack to get a patient is to let it be known he is a doctor. If there is going to be any uniformity of Medical Practice Acts in these three States, I would draw your attention to the value of making it a *prima facie* evidence of the practice of medicine to hold yourself out with the title of "Doctor."

(4) The fourth measure is advertising. Any type of fraudulent or misleading advertising will constitute a misdemeanor.

Those, very briefly, are the four weapons which we hope to employ to eliminate the illegal practitioner from the State, and if there is to be any uniformity, I commend those to your consideration.

We have added two experimental clauses to our bill, in which we have very great faith, but which we have not had an opportunity to try out. The first is the so-called Grievance Committee, and that is an attempt to show the public that the medical profession is not only willing to prosecute outsiders, but is willing to clean its own house. This is a committee of ten appointed by the various medical societies, who shall act as a committee to hear charges against any duly licensed physician for illegitimate practice of any nature, and to recommend to the Board the proper discipline. This body is also empowered to adjudicate any quarrel between two physicians, or between a private individual and a physician. It is hoped in this way to avoid a great many unpleasant squabbles and suits for malpractice. Both the public and the profession have shown a very great interest in this committee.

There is not only a popular but a legitimate demand on the part of the public and the physicians for the so-called physiotherapist—a man who knows how properly to apply physical means of treatment, but who does not diagnose disease. He is a special type of technical nurse. We have laid down educational standards for licensing physiotherapists, but have prohibited their use of drugs or practice of medicine as defined in the law, except the treatment of disease under the supervision of the duly licensed physician. The physiotherapist will have to show a prescription from a physician for so many manipulative treatments. In this respect he would be similar to the drug store. He will not need to know the diagnosis, he will not be the individual to decide the number of treatments; he is trained to carry out a limited field of endeavor. Just how well that will work out I do not know, but it will probably be satisfactory.

We are the sixth or seventh state to establish annual registration. Within a year there will probably be three of four more. Practically every state, with the exception of New York, has had to pay too large a price for its annual registration bill. In order to pass the Legislature, they have had to bargain for the organization of state chiropractic boards, osteopathic boards, and others and finally license a lot of, if not reprehensible, at least ignorant, practitioners. In return therefor they have been able to secure registration bills. We were particularly fortunate in getting our bill through without licensing any cults whatsoever. It was claimed, of course, that we licensed the physiotherapists, but if you could see the indignation of the chiropractors who find they can not do what they were doing as physiotherapists, and if they qualify at all, it must be as simple technical aids who cannot hang out a shingle, you will see that they are not getting much comfort out of the law. If a registration bill is passed in any of the states (and I think New Jersey will have to es-

tablish one) I hope it can be done without adding to the licensing of any further cults.

DR. CHARLES B. KELLY: The only way by which the three Acts could be made uniform would be to have them all made from the same model, which would seem hopeless and impossible. The next best procedure is a liberal interpretation, on the part of the respective Boards, of the spirit rather than the letter of the laws which governs them. If any state represented here today thinks sufficiently well of its neighbor to enter into reciprocal relations, then that relationship should be a liberal one. If we are to be friends, we should be big enough and broad enough to interpret in favor of each other whatever differences may occur in our respective laws, and not attempt to hinder one another.

My general thoughts can be particularized by reviewing the relationship now existing between Pennsylvania and New Jersey on the one hand, and New York and New Jersey on the other.

The situation between Pennsylvania and New Jersey is unfortunate. The Pennsylvania Law requires that an intern shall have completed a year in a hospital which shall have at least twenty-five beds to each intern, devoted to medicine, surgery, gynecology, and special diseases. The law further provides that this hospital shall maintain a thoroughly equipped, modern pathological and clinical laboratory, proportioned to the necessities of the hospital, and the records on file of the cases treated at such hospital shall give evidence of the laboratory work done by the intern.

On the strength of this law, the Pennsylvania Board *rules* that two months shall be spent *exclusively* in the laboratory. It also rules that the internship shall be rotational, and it is because certain hospitals in New Jersey did not give this two months *exclusive* laboratory training, that the interns from these hospitals were refused examinations or reciprocity by the Pennsylvania Board. Please remember the *Act* does not state either of these conditions, but the Pennsylvania Board puts that interpretation upon the law, and in one case went so far as to deny the privilege of examination to an intern who had served a total of twenty-six months in three different hospitals. Applying at that time for the privilege of examination, he received a letter which stated that "it would be necessary for you to have two months of *exclusive* laboratory, and training in the technic of x-ray work, sufficient to enable you to handle a machine safely and secure good experience in plate reading. This should be received in one of our approved hospitals in Pennsylvania."

While the Pennsylvania profession may be satisfied at having the law interpreted in that way, we of the New Jersey Board object to the Pennsylvania Board demanding that the New Jersey hospitals must adopt the exact standards of the Pennsylvania Board, because, while we may recommend both of the disputed features, we also recognize that some of the smaller hospitals cannot follow this out, and yet may give an excellent all-around training. We feel that if the Pennsylvania Board thinks that New Jersey is worthy of reciprocity, it should be a whole-hearted reciprocity, and that if our Board classifies a hospital as being satisfactory, it should be accepted by Pennsylvania, and that we should not split because a laboratory service is not *exclusive*.

Personally, I feel that laboratory work done by the junior man on a service where he would come in contact with the clinical aspect of the case as well as the laboratory side would be the best kind of training, and much better than the exclusive type. But that is not the point I would make. The important thought is that the Pennsylvania Board absolutely and arbitrarily insists that laboratory service must be *exclusive*, and carries this insistence to the point of causing two state boards to sever friendly relations. And the Act itself does not state this, it is simply a rule of the Board.

New Jersey, up to May 7, 1925, accepted without question the ratings of the Pennsylvania Board as regards Pennsylvania's Hospitals. We ask only that the same courtesy be extended to us, and do not believe we are unreasonable.

Therefore, the controversy between the Pennsylvania Board and the New Jersey Board is simply a small matter of the interpretation of the law. If Pennsylvania thinks New Jersey is worthy of reciprocity at all, then we feel Pennsylvania should trust the New Jersey Board to maintain standards. If Pennsylvania has no faith in New Jersey to maintain standards, then reciprocity should not exist at all.

The situation between New York and New Jersey could be as bad as the Pennsylvania-New Jersey situation, but, fortunately, it is not. The New Jersey Law requires a one-year internship. The New York Law does not require this internship, but before reciprocity can be granted, a man must have practiced one year in the State from which he is reciprocating.

Under a strict interpretation of this law, New York could not accept a man from New Jersey unless he had one year of general practice, and in fact, so notified several applicants for endorsement of their New Jersey license. Our Board took this matter up with the New York Board, and it was satisfactorily agreed that the year's internship in New Jersey would be regarded as equivalent to one year in practice.

New York has not lowered standards one bit by agreeing that a year's internship is equivalent to a year's practice. New York is still maintaining standards, and yet the technical difference between the laws of the two states is very satisfactorily adjusted. It is all so simple that one would be surprised if it were otherwise; yet with an arbitrary Board, the pound of flesh could be demanded.

To sum up, then, I would say:

(1) It would seem a hopeless and impossible task to make Medical Practice Acts uniform; and even if uniform, they would be subject to different interpretations by different boards and different attorneys-general.

(2) If reciprocity is established, it should be one of good will. Interpretation of the law should be broad, and one Board should not insist that its way is the only right way, that its rules are the only proper standards.

(3) We feel that there is far more reason for the New York and New Jersey Boards to disagree because of the actual law, but the difference has been very easily adjusted. If the Pennsylvania Board would interpret the spirit of the law as it applies to reciprocity, as the New York Board has done, there would be no controversy at all.

DR. WILLIAM L. HILLEGAS: Dr. Metzgar, president of the Pennsylvania Board, wishes me to express his regret at his inability to come on from Pittsburgh, and asked me to represent him but gave no indication of what stand he wants me to take, so it will have to be a personal one and also an expression of some of the things that have been promulgated at our meetings. We have no official medical secretary, so I shall have to talk as an official of the Board, taking as my subject "The Desirability of Uniform Medical Laws."

I want to express to New York our appreciation of your kind words of commendation of our Registration

Act. Having been the original sponsor of that Act, I got Hades in Pennsylvania. It has worked out practically just as it is going to do with you. I am sorry only that we did not carry out our original plan for a $2 fee. We gave in on that, and I do regret it, because of the fact that we have available only about eleven, twelve, or thirteen thousand dollars, and that does not give us enough funds for the policing you will be able to do. We have two full-time investigators, but we cannot cover the entire state with them. I am quite sure that these special attorneys will work out better than the district attorneys of the different counties. We have difficulty in inducing district attorneys to prosecute cases in the proper way.

I am rather unwilling to reopen the subject of reciprocal relations between New Jersey and Pennsylvania. I simply want to say that there never was a personal thing meant. Pennsylvania has legal contractual reciprocity with thirty-three states, and we have exactly the same rules and regulations in force with the other thirty-two. I want to read one clause in our Medical Practice Act which covers the exact possibilities for reciprocity that Pennsylvania offers: "Applicants for license certificates who have been successfully examined by any medical board and considered competent by said Board of Medical Education and Licensure, who can in addition present to the Board satisfactory certificate of having covered their scholastic and other medical requirements, may without further examination," and so forth.

It seems to me that medical education and the laws pertaining thereto, and the granting of licenses to practice medicine are state propositions, just as is any form of education, and are not intersectional and hardly international. Yet we can by these conferences propose alterations in the general laws which might rearrange and add to the value of the results, and the proposition that I am going to suggest is this:

There is a meeting every March in Chicago of the Federation of State Boards and of the medical educational men of the country, and the study of uniform medical laws should really finally go through those bodies. If this Conference is in earnest, we might have a committee of one member from each State to draw up a schedule of the uniform medical laws which we feel would be the soundest, and present the best standards and the best protection, and present it by request of this Conference to the meeting next year at Chicago.

There are several things that could be gained by uniform laws that would be of value. I do not mean uniform laws of these three closely related geographical states, but of the entire United States. One is a National and State endorsement of licenses, and that would be a great advantage; and the other is that it would smooth out quite a lot of detail problems that require adjustment of the various state medical boards from time to time, many of which are ticklish, and which cause some applicants for licensure to feel that an injustice has been done them. (Dr. Hillegas here presented some of the difficulties that would have to be overcome in order to create uniform medical laws.)

Four states have no fixed requirements for preliminary education, seven states have no legally fixed requirements for premedical education, three states require only one year of premedical education, and the rest of them two. All but one state require a medical diploma before admission for examination for license; one does not. Twelve states have adopted as a legal requirement an intern year before licensure, of which Pennsylvania was the first in 1914, and New Jersey the second in 1916, and this intern year is the fifth educational year in the life of the medical student. That, perhaps, presents the greatest difficulty in arranging uniformity. Last March at Chicago, the trend of the discussion was toward requiring this intern year as compulsory before licensure. The feeling seemed to be that the type of such education must be worked out and definitely arranged. Rotational service was not fully accepted by all present.

If the Conference seems to feel that something might be gained by arranging uniformity in just our three States, that would be worth considering; but, personally, I feel if we could arrange National uniformity we would be taking a very large step forward in the standardization of medical education.

DR. REIK: I want to disagree with my colleague from New Jersey that it would seem almost useless to attempt to secure uniform laws in the States, and that if we had them we could not secure uniform interpretation, when his very argument shows at the end of it the desire for harmony, and his concluding remarks were a plea for a uniform Act. I think Dr. Hillegas has the right idea about it. Of course, there are many difficulties in the way, even in a limited territory like this, covering these three States, but it might be brought about as a National movement, and we would make a great deal of progress toward National action if we could secure it over a limited territory.

I should like to ask Dr. Rypins one question regarding the interpretation of a feature of the law. He called attention to the display of the sign "Doctor" or "M.D.," and I gathered that he felt that this display was to be taken as *prima facie* evidence of the practice of medicine; yet the law (page 9, paragraph 5) says that the display by a person of a sign or advertisement or bearing the name of a practitioner of medicine, and so forth, shall be *presumptive* evidence in any prosecution or hearing. It also says in the last sentence that "it shall be necessary to prove in any prosecution or hearing only a single act prohibited by law." We had this question under discussion in New Jersey. Our present law has a clause protesting against the use of the term "Doctor." I think we ought to have the law amended to make it clear that this should be taken as *prima facie* evidence of the practice of medicine, because, if I understand correctly, the interpretation of the law in New Jersey is that we must show at least three offenses to prove that the alleged doctor has actually treated three patients, in addition to the display of the sign. Does the present law in New York require, in addition to the display of the sign, proof of at least one case?

DR. RYPINS: The display of the sign is the practice of medicine, under the definition of the law (Section 161). Under this clause to which you referred, either the display of the sign or the actual treating of the patient is the practice of medicine, and only one such offense, either the sign or the practice, is necessary to constitute a misdemeanor. On pages 9 and 10 you will note "the display of the sign is presumptive evidence of the holding out of the practice of medicine, and such presumption is rebuttable by the defendant." That was put in simply to be sure we should not get into any legal technicality; but the burden is put on the person whose name is on the sign to show he is not responsible for the display. Otherwise he is guilty of practicing, and that alone constitutes a violation.

In regard to the uniformity of laws of these three States, with the possible exception of this relatively minor difficulty between Pennsylvania and New Jersey, it seems to me we get along fairly well together, although our laws are very different in legal wording.

The public health is pretty well protected by these laws, and we should gain relatively little by making them absolutely uniform.

There is now a national commission for the study of medical education and licensure, organized for a five-year term, and made up of people interested in these problems. Among the questions which they are considering from a national point of view will be the matter of a uniform National type of law. However, I personally want to warn you against such a law, for this reason: A medical practice law, like any other law, can not be better than the standard of the population which enacts it. We might as well be perfectly candid and say that the level of intelligence in lawmaking varies a great deal in this country, and that along the north Atlantic seaboard more than average intelligence is shown in this matter. To compromise with the claims of a population that has lower ideas of medical practice than ours would be to jeopardize our advances, and the only thing we can do is to attempt to bring the other states up to our standard. If we cannot do it, it is better not to have a uniform law.

DR. F. C. HAMMOND: The Pennsylvania Board has ruled that the applicant for reciprocity shall appear before the Board. Can Dr. Hillegas give us the reason why the Pennsylvania Board adopted this ruling?

DR. W. H. HILLEGAS: It was a check-up on the desirability of an applicant from another state as a possible practitioner in Pennsylvania. We are able to review on their medical education and intern work with much more exactitude by personal contact than by correspondence.

DR. A. MACALLISTER: In New Jersey, we have a combined Board. If it were not for that, we probably should have an Osteopathic Board, a Chiropractic Board, and probably a Neuropathic Board. The only compromise we could effect was to include on the Board an eclectic, a chiropractor and an osteopath, besides the homeopath and the regular members—a board of eleven members, and thus we have been able to control the situation very well.

Until three or four years ago we were more or less handicapped by some conditions that existed in our state relative to the prosecution of illegal practitioners. Two years ago, this was taken over entirely by my office, and my secretary with some inspectors are doing very good work. In 1925 we arrested 139 people who were practicing without licenses, and in every case we secured a conviction. About six or seven of them were appealed, but have not yet been tried.

DR. C. B. KELLY: I was very much interested in what Dr. Hillegas had to say, but the thing that impressed me most was the fact that the majority of opinion in Chicago was not in favor of the Pennsylvania attitude. I believe, if Dr. Hillegas would go back to his Board and simply suggest that the hospitals of these three States be accepted by the other State Boards, our difficulties would all be over.

Consideration of "The Qualifications of Nurses and the Regulation of Their Relationship to the Medical Profession" was held over for the next meeting, owing to the lateness of the hour.

DR. H. O. REIK: Is there any thought as to when and where the next session will be held? We should consider the question of organization. This is a rather loose organization in which it was suggested to include the officers who have to do with the executive work in the three Societies, and it might be well to let it stand at that. The President of the State Society under whose auspices we meet might be considered as the presiding officer, and have in charge the arrangement of a program, being always at liberty, of course, to call in persons with authoritative knowledge to consider or advise with us. It might be well to consider, however, having somebody delegated as secretary, as a permanent link to keep these records and to carry on from one session to the other, and be the agent of the presiding officer and help him prepare the program. We shall be very glad to have you meet next in New Jersey, and I suggest November for the reason most of you are home from your summer vacations. I had in mind holding the meeting in February, May, and November.

DR. J. S. LAWRENCE: In seconding this motion, I endorse heartily what Dr. Reik said with regard to the manner of conducting these meetings in the future. It seems to me that the particular value of these conferences lies in the informality with which they are conducted, leaving us at liberty to investigate any question which happens to be on our minds. Might not our procedure be to consider some subject suggested by the society acting as host, collecting through investigation such information as we can bearing on that particular question, and carrying back to our respective societies for consideration the suggestions which come out of the meeting, such as the discussion of workmen's compensation here today. What was here said, and what will be added in accordance with the requests that were made, can be handed to the executive committees or the councils of the several State Societies for their consideration, and from this there likely will arise definite suggestions, which later can be acted on under instructions from the State Societies, and some uniformity secured. I heartily believe that there is a great deal more to be learned in regard to uniformity by study of our three laws. The uniformity we need will make the physicians of the three States feel that they are all working in a common cause.

A serious problem that is now besetting us, and one to which we are probably as blind as we were to several others that have developed, is a method of keeping physicians in the rural districts. Within ten years, if we do not do something about it, we shall be worrying about how to induce physicians to move from our big cities and the shadows of the hospitals and take upon them the responsibility of practicing medicine out where there are no laboratories or hospitals. We must consider this question, and there are several conditions that have a bearing upon it, including revised legislation in regard to the practice of medicine, as well as the Workmen's Compensation Act. How soon will the time come when a man will not be able to afford, for the sake of his reputation and for the sake of his practice, to take compensation cases where he does not have all of the facilities—laboratories, hospitals, etc.?

These things must be considered in a way they have not been previously—from the viewpoint of the practicing physician. It is not so much a question of the educational qualifications. Our educational requirements were largely inherited. We must find out our position as practicing physicians, and I believe that conference is a valuable asset along that line. I heartily endorse everything that Dr. Reik has said on that subject.

CHAIRMAN ALBERTSON announced that Dr. Reik's motion was carried.

DR. F. C. HAMMOND: In order to further the activities of this Conference, I move that the father of the Conference, Dr. Reik, be made permanent secretary. The motion was carried.

The next meeting of the Conference will be held in Atlantic City, in November, 1926.

THE

MEDICAL SOCIETY OF DELAWARE

A METHOD OF OBTAINING TRAINED NURSES FOR TUBERCULOSIS SANATORIA*

ALEXANDER ARMSTRONG, M.D.
WHITE HAVEN, PA.

When the sanatorium movement for the treatment of tuberculosis was inaugurated about twenty-five years ago, it at once became a serious and vexing problem as to how and where to obtain enough capable and willing nurses to care properly for the patients. The general nurse was available, both then and now, but she has never been entirely satisfactory, for several reasons: (1) Not having any personal interest in tuberculosis, and accustomed to the more varied and exciting work of general hospitals, she soon becomes dissatisfied and leaves. (2) She is apt to have a constant fear that she herself may become infected from the close association with the patients. (3) Even when the nurse is willing and satisfied, her relatives are often worried about her nursing in a sanatorium, and this pressure not infrequently causes her to resign. (4) Because of lack of personal experience in taking the cure, she is not in a position to realize the many vexing and monotonous questions which a tuberculosis patient has to meet and answer in the effort to attain health.

As early as 1904, the question of nursing became so acute that the staff of the Phipps Institute of Philadelphia originated the idea of recruiting a training class from among the arrested cases, both men and women, and from this the first training school of this character was begun. In 1907, the same group of physicians, carrying out the same idea, started a training school in the White Haven Sanatorium, and the first class was graduated in 1909, the course covering two years. The success of this venture was surprising, and the plan was put in operation by many other sanatoria, until there are now twenty institutions which have regular training schools for undergraduate instruction in tuberculosis, and ten which give postgraduate courses. The institutions represented include eleven city hospitals for tuberculosis patients, nine state sanatoria, and several private or county sanatoria.

These institutions were circularized, and the replies received from the various directresses of nurses show that they differ in regard to the physical requirements for pupil nurses. Two admit only arrested cases. Eleven admit both arrested cases of tuberculosis and those in sound health. Four admit only those in sound health.

At first it was difficult to secure a chief nurse who had the proper mental attitude toward these probationers, many of whom were necessarily working under a great physical handicap. The traditional chief nurse is one who considers only the work of the institution and not the welfare of the pupil nurse. We are now meeting this question, when it arises, by calling upon one of our own graduates who has shown by her work and attainments since graduation that she is the proper person for the position.

Most of these training schools now have affiliations with one or more general hospitals which will accept the graduates for special courses in surgery and obstetrics, giving them credit for two years of the customary three-year course. By this arrangement, the graduates are, in most of the states, eligible for enrollment as registered nurses.

From a rather large and intimate acquaintance with the nursing question for more than seventeen years, I am convinced that this plan is the best nursing scheme for the tuberculous patient. It is not usually difficult to secure general nurses to nurse our patients except in times of general epidemics, but they rarely want to accept ward positions, and they do not satisfy the patients as well as those trained in nursing the disease.

A question frequently asked is: How can these probationers be obtained? The obvious plan is to select those physically and mentally fit from each list of sanatorium patients. This is not so easy as it sounds, and calls for the active and constant coöperation of the whole medical staff. So many times, patients who are fitted cannot be induced to take up the vocation, preferring to return to their former occupations.

On this account, we are sometimes forced to recommend those whose physical condition is not

*Read before the American Sanatorium Association, November 13, 1925.

quite equal to the strain involved. The alternative, however, of these same patients returning to city life, and often to an occupation which is decidedly unfavorable, helps to decide the question in favor of the training school. It is in these cases that the strictest medical supervision is called for, and often half-time service for several months enables the probationer to accustom herself to the labor involved. It is surprising how many can and do finish their course in good physical condition.

Of our own graduates, numbering 170, seventy-seven per cent are well and working. Nine of them are superintendents of sanatoria, and fifteen are chief nurses.

When the supply from one's own institution is insufficient, it is only necessary to call upon the neighboring state or county sanatoria to supplement the supply. We have a number of institutions which send candidates to our training school, and they have first call upon them after graduation. This is a mutually satisfactory plan, and has worked out well in practice.

EDITORIAL

WASTE OF NURSING SERVICE

The evils in the nursing profession to which we have called attention in previous editorials are to be attributed almost entirely to the scarcity of nurses for hospital and private duty. The trained nurses can and do dictate terms of employment and remuneration because of lack of competition. As we have pointed out in a previous editorial, fewer girls enter training schools for nurses and more people demand nursing service, either because the modern practice of medicine depends on nursing rather than on the administration of drugs or, as is only too often the case, it has become the fashion to employ trained nurses in acute illness of minor importance.

Still, quite a number of nurses graduate annually from our training schools. What becomes of them? They do not all go into hospital or private nursing. A very large number are diverted into public-health nursing. Thus, according to the census of 1924, there were 3,269 agencies employing 11,171 full-time nurses. That not all the nurses are utilizing their training in their public service is shown by the following figures: of the 3,109 agencies employing nurses, 45 had their nurses give curative care only, and 1,585 instructive and preventive care only. As the latter means merely the inculcation of the modern principles of hygiene, the question naturally arises, "Why cannot this work be done as well by educated women without any specific nursing training?" What special trick is there in persuading mothers to have their children's teeth looked after, or their tonsils and adenoids removed? If we are to have "tonsillectomy drives," any intelligent laywoman can conduct such campaigns. Nor does it require special knowledge to take children to and from the various clinics or even assist the physicians in taking histories and preparing the patients for examination.

It seems to us that in this country of prodigious waste we of the medical profession are furnishing one more instance of waste of valuable material in the matter of employing or sanctioning the employment of trained nurses to do the jobs that can be as well performed by intelligent laywomen.

Medical News

Deaths

ELEANOR P. LEAMAN, wife of William G. Leaman, M.D., of Philadelphia; June 22.

OLIVER C. HEFFNER, M.D., of Pottstown; Jefferson Medical College, 1885; aged 71; June 14.

ALVIN A. WERTMAN, M.D., of Tannersville; Jefferson Medical College, 1889; aged 63; recently.

JOHN T. HOWELL, M.D., of Wilkes-Barre; Jefferson Medical College, 1881; aged 76; June 16.

ROBERT G. BOAK, M.D., of New Castle; University of Pittsburgh School of Medicine, 1896; aged 61; July 4.

LEROY W. BRADEN, M.D., of Tenmile; Jefferson Medical College, 1880; aged 72; June 4, of cerebral hemorrhage.

WILLIAM MACINTOSH, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1883; aged 76; June 23.

WILLIAM W. MYER, M.D., of Old Forge; University of Pennsylvania School of Medicine, 1895; aged 53; recently.

GEORGE R. GLASS, M.D., of Uniontown; College of Physicians and Surgeons, Baltimore, Md., 1891; aged 59; June 22.

LAURA REMINGTON MORRIS, wife of Caspar Morris, M.D., of Philadelphia; June 17, at North East Harbor, Maine.

BERIAH E. MOSSMAN, M.D., of Kansas City, Mo. (formerly of Greenville); University of Pennsylvania School of Medicine, 1879; June 26.

J. FRANKLIN RAINE, M.D., of Sykesville; College of Physicians and Surgeons, Baltimore, Md., 1905; aged 57; June 4, of heart disease.

HENRY L. CARLISLE, M.D., of Windber; University of Pennsylvania School of Medicine, 1896; aged 63; April 13, of chronic nephritis and uremia.

DR. EMILE COUE, famous author of the autosuggestion idea for curing human ills, died at his home at Nancy, France, July 2. The cause of his death is given as overwork.

JAMES J. PFADT, M.D., of Erie; Medico-Chirurgical College of Philadelphia, 1912; on the staff of St. Vincent's Hospital; aged 47; April 26, of carcinoma of the parotid gland.

Ralph T. Sowden, M.D., of Slatedale; University of Michigan Medical School, Ann Arbor, 1879; for many years president of the board of education; aged 75; May 30, of pneumonia.

Herbert H. Cushing, M.D., of Philadelphia; University of Munich, Germany, 1898; Jefferson Medical College, 1899; member of the Zoölogical Department of the University of Pennsylvania; aged 54; July 3.

John Howland, M.D., professor of pediatrics in Johns Hopkins University Medical Department, and pediatrician-in-chief of Johns Hopkins Hospital since 1912; June 20, in London, following a surgical operation.

J. Franklin Gordner, Jr., son of Dr. and Mrs. John F. Gordner, of Montgomery; premedical student at the University of Pennsylvania; aged 20; June 27, at the Muncy Valley Hospital, following an operation for appendicitis.

John S. Campbell, M.D., of Portersville; Western Reserve University School of Medicine, Cleveland, 1891; Jefferson Medical College, 1906; member of the school board; aged 61; July 17, of a fractured spine, due to a fall from a ladder while painting his barn.

J. M. Barton, M.D., of Atlantic City, N. J.; Jefferson Medical College; aged 79; June 28. Dr. Barton for a number of years was clinical professor of surgery at Jefferson Medical College, and assistant to the venerable Samuel D. Gross.

Richard C. Casselberry, M.D., of Chester, Hahnemann Medical College and Hospital of Philadelphia, 1903; chief of the surgical staff of the J. Lewis Crozer Homeopathic Hospital; aged 49; July 4, following an operation for appendicitis.

Biddle R. Marsden, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1885; member of Advisory Board of Hahnemann Hospital; member of U. S. Medical Examiners' Board during World War; aged 62; June 22, of heart disease.

C. C. Wiley, M.D., of Pittsburgh; College of Physicians and Surgeons, Baltimore, Md., 1875; major surgeon of the old Eighteenth Regiment, Pennsylvania National Guard; Spanish-American War veteran; figured prominently as an expert alienist for the defense at the first trial of Harry K. Thaw for the murder of Stanford White in 1907; aged 72; June 23, of paralysis.

Engagements

Miss Esther Statler to Dr. George I. Naylor, of Johnstown.

Miss Annette Eshner, daughter of Dr. and Mrs. Augustus A. Eshner, of Philadelphia, to Mr. Paul Davis Dalsimer.

Miss Peggy Hammond, daughter of Dr. and Mrs. L. Jay Hammond, of Philadelphia, to Mr. Frank Paul Kane, of Radnor.

Marriages

Miss Florence Stanton, of Schuylkill Haven, to Dr. John L. Flanagan, of Pottsville, June 23.

Miss E. Gertrude Brenner, of Baltimore, Md., to Dr. Paul C. Walter, son of Dr. and Mrs. H. B. Walter, of Harrisburg, June 24.

Miss Mary Luke Scheifly, daughter of Dr. and Mrs. John E. Scheifly, of Kingston, to Mr. George Aspenwald, of Washington, D. C., June 26.

Miscellaneous

Dr. and Mrs. Henry Dillard, of Philadelphia, are spending some time in Europe.

The Lewistown Hospital has been willed $5,000 by the late Mary Turner McCullough of Lewistown.

Twelve nurses received diplomas from the Abington Memorial Hospital at its recent graduation exercises.

There were nine graduates in June from the Nurses' Training School of the Sacred Heart Hospital, Allentown.

E. R. Squibb & Sons have recently completed arrangements for the opening of a branch office in New Orleans, La.

Dr. H. J. Cartin and family, of Johnstown, are spending a month in Boston, where Dr. Cartin is taking special work in pediatrics.

Dr. S. B. Meyers, of Johnstown, is spending ten weeks in Vienna, Austria, where he has gone to take special work in neurology.

Dr. and Mrs. Barton Cooke Hirst, of Philadelphia, sailed the latter part of June for Europe, where they will travel during the summer.

Dr. and Mrs. C. H. Schultz, of Johnstown, are spending six weeks in Boston, where Dr. Schultz is taking a postgraduate course in medicine.

Dr. Frank F. D. Reckord and his sister, Miss Mary R. Reckord, of Harrisburg, sailed July 10 for Europe, where they will stay two months.

Dr. A. M. Pierce, of West Elizabeth, who has completed fifty years of practice, was recently tendered an ovation by his confreres.

Drs. John L. Groh and John E. Marshall have been appointed school physicians for the city of Lebanon.

Dr. J. Newton Hunsberger, of Norristown, was elected president of the Hunsberger Family Reunion Association at Hershey Park the early part of July.

Dr. and Mrs. James H. McKee, of Germantown, announce that the engagement of their daughter, Miss Nancy McKee, and Mr. William H. Hobson, Jr., is broken.

Dr. Herbert B. Carpenter and Miss Anna C. Carpenter, of Philadelphia, recently sailed for a tour of Norway and Sweden. They will return home about September 10.

Dr. E. Rostin White, of Wheeling, W. Va., has been appointed assistant surgeon to Dr. H. H. Holderman, surgeon-in-chief of the Locust Mountain State Hospital.

Dr. and Mrs. G. Oram Ring, of Philadelphia, have gone to Europe, and will motor through France, the Tyrolean Alps, Belgium, and Holland, returning from Antwerp on September 3.

Ground has been broken for an addition to the Geisinger Memorial Hospital at Danville that will cost $250,000. The addition will add thirty beds to the capacity of the hospital.

The drive to raise $100,000 for improvements, repairs, and debts of the Lewistown Hospital netted $60,000 June 26. It was decided to continue the drive until the following Tuesday.

The late Dr. O. C. Heffner, of Pottstown, has left an estate valued at $43,000. Of this amount, a trust fund of $5,000 is created, the income of which is to be used "in the interest of missionary work in China."

Dr. S. Calvin Smith, of Philadelphia, addressed the Cumberland County Medical Society at its meeting on July 13. His subject was "The Irregular Heart, Its Clinical Varieties, and Their Treatment."

Plans for a modern county tuberculosis hospital to be erected on Neversink Mountain by Berks County have been completed. The plans call for a 220-bed hospital, which institution ultimately will cost $800,000.

THE EIGHTY-SECOND annual convention of the American Institute of Homeopathy was held in Philadelphia, June 28 to July 2, with headquarters at the Bellevue-Stratford Hotel. Dr. A. W. Belting, of Trenton, N. J., was installed as president.

THE PENNSYLVANIA HOSPITAL, Philadelphia, soon will make its first appeal to the public for funds since it was organized more than 175 years ago. The campaign about to be launched is for $3,500,000, all of which will be expended on new buildings and equipment.

THE NEW Reading Hospital, in course of erection for two years, will be opened formally on Saturday afternoon, October 2. Later the hospital staff will banquet all the physicians of Reading and Berks County. The new hospital when completed will be a $4,000,000 institution.

GRADUATE NURSES of the General and St. Joseph's Hospitals, Lancaster, since July 1, will not spend more than twelve hours daily on duty on private cases. The practice is in harmony with schedules observed by nurses in other cities, it was explained in the announcement.

DR. J. F. BUZZARD, formerly of Portage, has completed a course in the Graduate Medical School of the University of Pennsylvania in diseases of the eye, ear, nose, and throat. On June 24 he sailed for Europe to continue his studies in the different European clinics.

DR. A. J. COHEN, medical director of the Eagleville Sanatorium, sailed July 3 for a motor tour of Switzerland, Italy, and Germany, to gather information on European methods of treating pulmonary tuberculosis. In company with Mrs. Cohen, he will visit the principal sanatoria in those countries.

ON JUNE 24, Mayor W. Freeland Kendrick dedicated the new Philadelphia unit Shriners' Hospital for Crippled Children by carrying into the institution five-year-old Frank R. Riley, of Harrisburg, one of the first patients. Dr. DeForrest P. Willard is surgeon-in-chief, and Miss Edna Craig Taylor is superintendent.

MISS MARGARET CRAWLEY, teacher of lip reading at the William Penn High School for Girls, Philadelphia, won the title of champion lip reader on June 23 at the first lip-reading contest ever held in this country, during the seventh annual convention of the American Federation of Organizations for the Hard of Hearing, which was in session in Philadelphia.

THE BELLEVUE-STRATFORD, Philadelphia, convention headquarters of the State Society at its annual meeting, October 11-14, announces that, owing to the urgent demand for rooms, reservations will not be held after 9 p. m. of the date of reservation, unless by special request. It is important that all members who have made reservations at this hotel during the State Society meeting bear this in mind.

THE FIRST World Conference on Narcotic Education, called to inaugurate an international educational campaign against the menace of habit-forming drugs, was held at the Bellevue-Stratford Hotel, Philadelphia, July 5-9. The address of welcome was made by Governor Pinchot. More than 400 delegates were registered the first day.

THE BENEFICIARIES of the annual Rittenhouse Square Flower Market, held in Philadelphia recently, were the Children's Ward of the Orthopedic Hospital, the Philadelphia Heart Association, the San Cristoforo Day Nursery, the Children's Seashore House at Atlantic City, and the Rittenhouse Square Improvement Fund. Donations of $2,900 were made to each of these five institutions.

AFTER SUBMITTING a bill to Chester County two years ago for $560 for an autopsy he performed on a murdered man, Dr. Mark C. Robert, of Phœnixville, will be allowed $30 by the County Controller, which is the stipulated amount in cases where the services of a physician have been ordered by the District Attorney for the purpose of performing an autopsy, it has been announced.

DECISION WAS reached, June 24, that the work carried on by the Third District Board of Health Association shall in the future be conducted by individual counties instead of the association. The district board, which includes Berks, Carbon, Lehigh, Monroe, Northampton, and Schuylkill counties, in session at Allentown, felt that this method was more direct and would have better results.

THE CHARTER of the Kansas City College of Medicine and Surgery, involved in the diploma-mill scandal, was ordered revoked by the State Supreme Court of Missouri, June 23. The evidence showed that the school had sold for profit from fifty to sixty diplomas and that apparently it existed only for the profit of its founder, Dr. D. R. Alexander. A similar case is pending against the St. Louis College of Physicians and Surgeons.

THE GENERAL HOSPITAL, of Wilkes-Barre, has awarded a contract for the erection of an eight-story addition near the administration building, which will be known as the public-ward building. The top floor of the addition will be partly enclosed in glass, and used especially for crippled children as a solarium. The structure and furnishings will cost $345,000, and will give the hospital a capacity of 500 beds, one of the largest in the State.

THE ANNUAL CONVENTION of the American Federation of Organizations for the Hard of Hearing was held in June at the Benjamin Franklin Hotel, Philadelphia. Among the speakers were Dr. Arthur J. Cramp, director of the Bureau of Investigation of the American Medical Association, and Dr. Wendell C. Phillips, president of the Association. Dr. Douglas Macfarlan, of Philadelphia, gave a preliminary report on a survey of hearing aids.

THE FIRST composite exhibition and display of disinfectant and insecticide products under the supervision of the Insecticide and Disinfectant Manufacturers' Association will be held in conjunction with the annual convention of this association next December in New York. The exhibit will embrace two divisions; that for finished goods for the ultimate consumer, and that for basic raw materials used in the manufacture of insecticides and disinfectants.

DR. PAUL LOWELL and his wife are back in Lancaster after an absence of thirteen years. Dr. Lowell has served as director of the International Health Board of the Rockefeller Foundation in Siam for several years, previously having acted as head of the Culion leper colony. He also has been attending physician and surgeon for government employees in the Philippines. He served with the A. E. F. in Siberia, and later acted as chief surgeon of the Russian railroad corps.

AT A HEARING BEFORE U. S. Commissioner Samuel Levin, Jacob Knouse of the firm of Knouse and Knouse, Harrisburg, was held in $1,000 bail for court on a charge of conspiracy to violate the liquor laws. Dr. R. L. Williams, of Houtzdale, was also held. Other defendants dismissed were Ella B. Knouse, Elizabeth Walsh, five employees of the firm, and Drs. Fred Rice, Sunbury, H. W. Posey, York, Montgomery Gearhart, Millerstown, and R. L. Williams, Houtzdale. Cases have not been called against Drs. S. S. Mann, Columbia, and W. S. Enfield, Bedford, as previously announced.

MISS MARION P. FIROR, of Philadelphia, who went to China in 1916 as a teaching missionary, was so appalled by the physical suffering of the women and children that she returned to this country in 1921 to study medicine. She was graduated at the recent commencement of the Medical School of the University of

Pennsylvania, and in July returned to China as the first woman medical missionary of the Reformed Church. By special arrangement she will serve her internship at the Medical College Hospital, Peking, and will begin her active work at Hoy Memorial Hospital, Yoochow City.

At a recent conference of German physicians, held at Eisenbach, Germany, a resolution was adopted against all forms of prohibition laws, declaring the legal restrictions on personal freedom would lead to race demoralization. The conference almost unanimously voted in favor of an educational campaign against intemperance by propaganda in the schools, the promotion of sports, and the curbing of the treating habit. The physicians expressed the belief that the Swedish system of governmental control of the sale of liquor was the most noteworthy in the world, but asserted that even it was wrong in principle.

The following were appointed members of the American Committee of the Fifth International Stomatological Congress of the Association Stomatologique Internationale, to be held in Paris in 1927: Dr. Alfred J. Asgis, *Chairman;* Dr. G. Reese Satterlee, *Treasurer;* E. B. Hardisty, *Recorder;* Dr. Oliver T. Osborne, New Haven, Conn.; Dr. George W. Mackenzie, Philadelphia; Dr. Edward C. Briggs, Boston, Mass.; Dr. Wm. G. Shemeley, Philadelphia; Dr. Anthony Fassler, New York City; Dr. Louis Ottofy, Chicago, Ill.; Dr. Weston D. Bayley, Philadelphia; Dr. W. E. Hocking, Devil's Lake, N. D.; Dr. F. H. Dimas Aruti, San Juan, Porto Rico; Dr. Wm. G. Downs, Jr., Evansville, Ind.; and Dr. J. M. Murphy, Temple, Texas.

The United States Civil Service Commission has announced an open competitive examination for medical officers. Applications for such positions will be rated as received at Washington, D. C., until December 30. The examinations are to fill vacancies in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, the Panama Canal Service, the Veterans' Bureau, and other branches. The Commission also announces an examination for the positions of Physiotherapy Aide and Physiotherapy Assistant. Applications for these positions must be on file at Washington, D. C., not later than August 7, October 9, or November 27. Full information and application blanks may be obtained from the United States Civil Service Commission, Washington, D. C., or the secretary of the board of U. S. civil service examiners at the post office or custom house in any city.

BOOKS RECEIVED

Pernicious Anemia. By Frank A. Evans, M.D. Baltimore: The Williams and Wilkins Company, 1926. Price, $2.50.

Birth Control and the State. By C. P. Blacker, M.C., M.A., M.R.C.S., L.R.C.P. New York: E. P. Dutton & Company, 681 Fifth Avenue. Price, $1.00.

Methods and Problems of Medical Education. Fourth series. Division of Medical Education, The Rockefeller Foundation, 61 Broadway, New York City.

Fourteenth Annual Report of the Medical Department of the United Fruit Company, 1925. New York: United Fruit Company, Medical Department, 17 Battery Place.

Hay-Fever and Asthma. By Ray M. Balyeat, A.M., M.D., Instructor in Medicine in the University of Oklahoma Medical School; Consulting Physician to the State University Hospital. 27 illustrations. Philadelphia: F. A. Davis Company, 1926. Price, $2.00.

Roentgen Interpretation. By George W. Holmes, M.D., Roentgenologist to the Massachusetts General Hospital, and Howard E. Ruggles, M.D., Roentgenologist to the University of California Hospital. Third edition, revised. 226 illustrations. Philadelphia and New York: Lea and Febiger, 1926. Price, $5.00.

Brains of Rats and Men. A survey of the origin and biological significance of the cerebral cortex. By C. Judson Herrick, Professor of Neurology, the University of Chicago. Chicago: The University of Chicago Press.

Fundamentals of Dermatology. By Alfred Schalek, M.D., Professor of Dermatology and Syphilology, University of Nebraska College of Medicine. Illustrated with 54 engravings. Philadelphia and New York: Lea & Febiger. Price, $3.00.

Politzer's Textbook of the Diseases of the Ear. For Students and Practitioners. Sixth edition. Revised, and largely rewritten by Milton J. Ballin, M.D., Ph.B., Attending Oto-Rhino-Laryngologist, Bronx Hospital, New York City. 302 illustrations. Philadelphia: Lea & Febiger, 600 S. Washington Square, 1926. Price, $10.00.

BOOK REVIEWS

From a reviewer we expect information and advice which will guide us safely and to our profit, warning us of the poor, the mediocre, the commonplace, and inviting our attention to merit.

THE FOOD VALUE OF THE BANANA. Compiled by Skinner, Sherman, & Esselen, Inc., Consulting Chemists. With foreword by Franklin W. White, M.D. Publisher, W. M. Leonard, 394 Atlantic Avenue, Boston, Mass.

This is a very attractive little paper-covered brochure—a piece of commercial advertising of which the Atlantic Medical Journal is glad to approve. The production and consumption of bananas should be encouraged in every possible way, and in good work of this kind the medical journals and the medical profession should lead. The fact that this attractive little publication is distributed in the interests of the banana industry should not detract from the influence of the booklet, particularly as we find that it is very carefully and honestly compiled from the works of the very best physiologists and dietitians, such as Robert Hutchinson, Sir James Crichton Browne, Atwater and Bryant, Walter B. Cannon, McCollum and Simmonds, Eddy, Pease, Rose, Haas, and Sherman.

The banana is to be urged as a food from infancy to old age. Raw and cooked, it is a fuel food easily digested and easily assimilated. The 1½ per cent of protein which it contains may or may not be utilized in the body. In childhood it is a valuable substitute for candies and sweets. In reducing diets it can be used to advantage instead of bread. In nephritis it is often of great benefit. It can be grown in almost unlimited quantities in various parts of the world. It can be shipped any distance without deterioration, if properly picked and properly cared for, as it shares with the pear the rare quality of being better when picked green and ripened under special conditions.

Among the valuable items of information which this little book contains is the fact that bananas should not be kept in the refrigerator or ice box, and that they should not be eaten before the brown spots appear on the skin, or before the pulp is fairly softened. It is one of the few fruits that cannot be contaminated by dust and dirt of the street so long as the pulp is not exposed.

As to vitamin C, the banana belongs in the class with oranges, tomatoes, yellow turnips, etc. As to vitamin A, it is equal to peas, about one twentieth as rich as butter, Vitamin B is low but not absent. The salts of the banana are base-forming.

If you have not received one of these little books, it would be worth your while to write for one.

A TEXTBOOK OF UROLOGY. By Oswald Swinney Lowsley, A.B., M.D., F.A.C.S., Director, and Thomas Joseph Kirwin, Ph.C., B.S., M.A., M.D., Chief of Clinic of the Department of Urology (James Buchanan Brady Foundation) of the New York Hospital. Octavo of 699 pages, with 233 engravings and 13 plates. Philadelphia and New York: Lea & Febiger, 1926.

This refreshing work is pleasantly free from the obsolete, and lacks that undue subservience to past masters which characterizes so much of the literary output of the present. It is based upon eighteen years of intensive study in the research laboratory and in hospital and private practice. The illustrations are almost wholly original, the selection of material is excellent, and the bibliography at the end of each chapter is a stimulus to the reader who seeks more detailed information.

Part I clearly defines the position of urology as a specialty, and briefly reviews the history of that branch of medicine called urological surgery. Part II is devoted to diagnostic procedures in urology, and is a rich mine which can be drawn upon with profit by any one who has to do with diseases of the genito-urinary tract. Part III treats of these diseases in considerable and sufficient detail. Embryologic references are particularly rich and illuminating. A surprising amount of statistical material of great practical importance has been so cleverly incorporated in the text that the reader is constantly impressed by the soundness of the resulting deductions.

No other recently published textbook of urology devotes any space to testicle transplantation, which is adequately discussed in Chapter VII. The judicious use of the alpine light in the stimulation of the healing of tuberculous sinuses is dwelt upon, and apparently none of the newer therapeutic agents of proven utility has been neglected. The field of regional anesthesia is particularly well covered, as might be expected from the pioneer work of the authors in this domain.

The discriminating general practitioner will welcome this concise and suggestive volume. The urological specialist will find it most helpful and thoroughly up to the present.

COLLECTED PAPERS BY THE STAFF OF THE HENRY FORD HOSPITAL (First Series, 1915-1925). Octavo, cloth, 665 pages, 151 illustrations, and 42 charts. New York City: Paul B. Hoeber, Inc. Price, $8.00 net.

The periodic presentation, in a bound volume, of the work emanating from a particular clinic has become one of the recognized functions of such institutions. Large and completely equipped hospitals and clinics, with their wealth of material and well-balanced, highly trained staffs, are able to pursue scientific clinical studies and researches in such a way that they should turn out a steady stream of valuable publications. In fact, one of the principal obligations of all such institutions should be the development and dissemination of accurate medical knowledge. The Henry Ford Hospital now presents, in this volume under review, the scientific publications by the members of the Staff, from its founding in 1915 up to the end of September, 1925. The articles are uniformly of the highest scientific type, and the work presented reflects the greatest credit on this relatively new institution.

Space does not permit a detailed consideration of all the valuable articles presented. There are forty-three, and the majority of them merit individual and careful study. In addition, some articles dealing with technical appliances are grouped in Appendix A, while Appendix B is devoted to a short account of the history and physical equipment of the Hospital.

Particular attention is called to the following: two papers on blood phosphates in relation to carbohydrate metabolism, by Bolliger and Hartman; the paper of E. C. Davidson on the treatment of burns by tannic acid, describing the technic of this method, and presenting some truly remarkable results; a very complete study of hemophilia by Davidson and McQuarrie; several papers on roentgenological subjects, of particular interest to internists, by H. P. Doub and in association with Bolliger, Hartman and Peabody; a report of one hundred and fifty blood transfusions, by Roy D. McClure, and also a study of pernicious anemia treated by splenectomy and repeated transfusions; studies on a case of chromic-acid nephritis by R. H. Major; some studies of blood coagulation and also on the use of heparin in transfusions, by E. C. Mason; three papers on tissue antolysis in vivo by Mason and Davidson, assisted by Mathew and Rastellp. Mason and Davidson also present some very complete and valuable studies of insulin action, as well as a paper on some physicochemical aspects of hemolysis. There are seven papers on obstetric subjects by Plass, several of these being chemical subjects, assisted by Bogert, and one by Matthew, and several papers on obstetric technic by R. S. Siddall. F. Janney Smith presents two excellent papers, one on the prognosis in streptococcus-viridans bacteriemia, and one, with McClure, on the relief of pain in angina pectoris by cervical sympathectomy.

There are other papers of interest and value, but those mentioned are especially to be commended because of their thoroughness and scientific character. The entire volume reflects the highly scientific work that is being conducted in the Ford Hospital. The practical usefulness of the book is greatly increased by a complete index, whereby any particular subject can be located in as many of the papers as it may happen to be taken up.

HUMAN PHYSIOLOGY. By Ernest H. Starling, C.M.G., F.R.S., M.D., Sc.D., F.R.C.P., Foulerton Professor of the Royal Society, late Jodrell Professor of Physiology in University College, London. Fourth edition, thoroughly revised. 1704 pages. 570 illustrations. Lea and Febiger, Philadelphia, 1926. Price, $8.50.

In his preface Dr. Starling states that the progress in all branches of physiology has been so rapid in the five years since the third edition appeared that extensive alterations have been necessitated in almost every chapter; that he has entirely rewritten some parts, on account of the revolution in views wrought by recent discoveries; and that although much new matter has been added, the volume is less bulky because of the omission of even a summary of elementary organic chemistry; also that other advantageous changes in the arrangement of chapters and much use of small type has saved space.

This book is generally well balanced in presenting the various phases of the subject, and is notable for its many and apt diagrams and graphic records. Interest is often added by the description of methods and apparatus by which experiments are performed. Today, the suggestion of the practical applications of physiologic knowledge to clinical problems is one of the tests of the value of a textbook on physiology. Dr. Starling has successfully met this test.

The subject matter is divided into an introduction, four books and an adequate index. In the introduction Dr. Starling epitomizes his text by considering the phenomena of living matter: assimilation, respiration, activities associated with discharge of energy, growth, reproduction, and death itself. He emphasizes the fact that *adaptation* is the feature these phenomena have in common, and that this adaptation is essential to life. According to Herbert Spencer's classic definition, "Life is the continuous adjustment of internal to external relations."

Book I on general physiology, consists of several chapters on the structural basis of the body, the material basis of the body, and the energetic basis of the body.

Book II discusses the mechanisms of movement and sensation. Great value is added to the usual considera-

(Continued on page xiv.)

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BOOK REVIEWS

(Continued from page 824.)

tion of these topics by the introduction of many references to comparative physiology. In a masterly manner Dr. Hartridge revises the section on the sense organs, and is entirely responsible for the chapters on vision. This does not interfere with the continuity of presentation, which is one of the chief advantages secured by a one-author textbook.

Book III considers the mechanism of nutrition. Professor Starling's distinguished investigations in the field of nutrition account for the especially scientific treatment of this topic.

Book IV gives a brief outline of the physiology of reproduction: a consideration of the essential features of the sexual process, development and heredity, leading up to the consideration of reproduction in man under the subtopics, the development of the reproductive organs, male and female, the relation of ovulation to menstruatin, impregnation, and parturition. A short chapter on the secretion and properties of milk completes the book. Dr. Starling discusses in separate chapters many topics frequently treated most casually or omitted, such as general physiology, voice and speech, and the defense of the organism against infection.

Those who already know Starling's *Physiology* are grateful for this splendid revision. New readers, whether medical students, physicians, or general readers, will have a treat, for the book—as may be inferred from the foregoing—is a storehouse of information in regard to fundamental facts and theories of physiology, with their practical application presented in most acceptable form. Dr. Starling may be congratulated on succeeding in his "attempt to give a picture of physiology as it stands today."

INTERNATIONAL MEDICAL ANNUAL FOR 1926; William Wood & Company, New York, N. Y. Price $6.

In this day of so many medical journals, it is impossible for any one to read them all. For a physician who desires to keep in touch with medical progress, a good yearbook is indispensable. The *International Medical Annual* has an efficient staff of editors, each of whom chooses, from the world's medical literature, that which has been written during the past year in his department which he considers to be worth preserving. The present volume has sixty-six plates, for the most part, very creditably executed, well demonstrating the great value of good illustrations in medical as well as surgical writings.

Reproductions of x-ray films are sometimes very unsatisfactory for the reason that x-rays require particular care in order to make clear the point which a good picture should carry over. It is a disappointment to spend time upon an x-ray picture which really does not have any message. Besides the plates, there are fifty-six other illustrations, diagrams, and tables.

A glance at the list of contributors will impress one at once with the great value and reliability of this work. In this list of contributors, each name is followed by the degrees, hospitals, and teaching positions held. We find there Robert Hutchison, the author of the best book ever published on food and dietetics, Sir James Purves-Stewart, author of one of the best books in existence on neurology, and many other Fellows of the Royal College of Physicians.

In the introduction there are six pages given to a comprehensive review of medical progress during the past year. The body of the book consists of reviews of the articles chosen from the year's medical literature. Twenty-five pages are given to a general index, where the more important articles appear in heavier type. This is an invaluable aid in the use of such a book of reference.

The ATLANTIC MEDICAL JOURNAL takes great pleasure in heartily recommending this book to its readers.

(Concluded on page xvi.)

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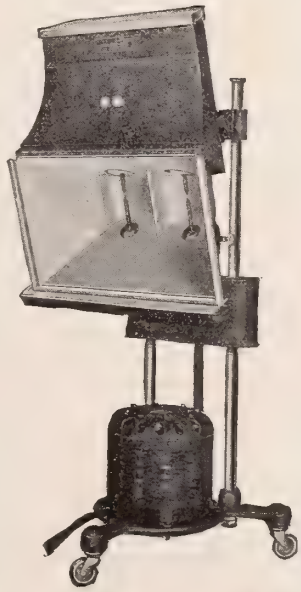
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BOOK REVIEWS

(Concluded from page xiv.)

PRACTICE OF OBSTETRICS. By J. Clifton Edgar, Emeritus Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College. Revised by Norris W. Vaux, Clinical Professor of Obstetrics in the Jefferson Medical College. Sixth edition. Philadelphia: P. Blakiston's Son & Co. Price, cloth, $8.

It is a good work to save a valuable textbook from the discard. There can be little criticism of the presented subject matter, but there is little original to excite commendation.

Because of the numerous references to original articles, the book has a distinct value for the specialist, but the medical student will derive little information from the meager and often ambiguous abstracts of some of the original papers, as instanced in the five-line paragraph on the use of mercurochrome. Again, the student will be very little wiser after reading the injunction to determine the patulosity of the tubes after the method of Rubin. Academic discussion and unproved theories should have no place in a textbook, but if such subjects as disinfection of the blood stream, Rubin's tests for sterility, and forceps as rotators are mentioned, the student will be less befogged by a concise description.

BULLETIN OF THE AMERICAN RELIEF ADMINISTRATION. Directing physician's report of American medical and sanitary relief in the Russian famine, 1921-1923. Published by American Relief Administration, 42 Broadway, New York, N. Y.

To those interested in the problems raised by famine in any great country, especially the medical problems thus raised, a reading of this bulletin will be of real value.

The report opens with a chapter outlining the development of medical practice in Russia from the days of Boris Godunov, through the reigns of Peter the Great and Catherine—the former being himself a physician of sorts—into the Zemstvo organization of rural medicine, and finally down into the present organization of the Soviet Commissariat of Health. There are chapters on sanitation in Russia; the conditions in the homes and hospitals, as the Americans found them; food conditions, with especial reference to starvation and cannibalism, scientifically treated, yet gruesome and pathetic in their simple but terrible facts. There is also a chapter dealing with the actual carrying out of the American operations. In brief, it is a record of a distinctly American achievement, and a new addition to both American and Russian medical history.

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(Concluded on page xviii.)

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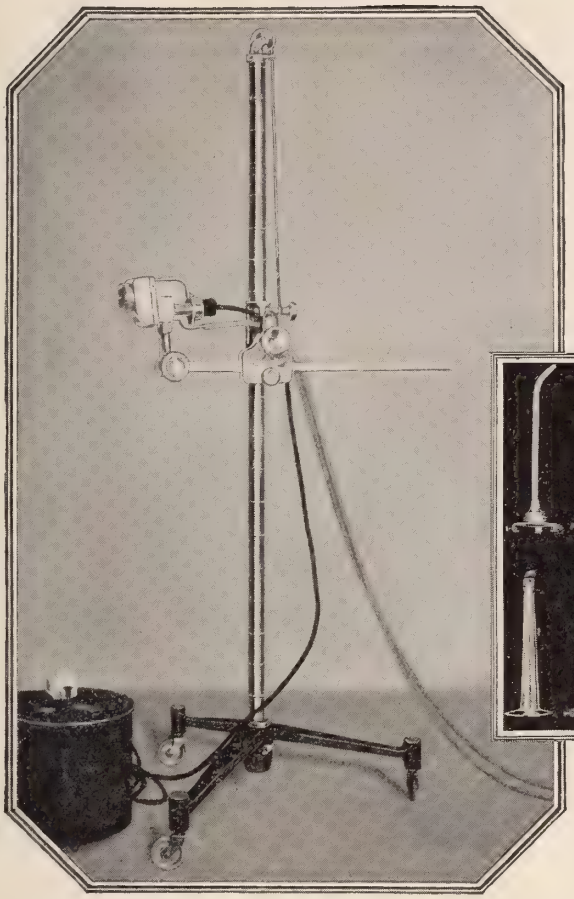
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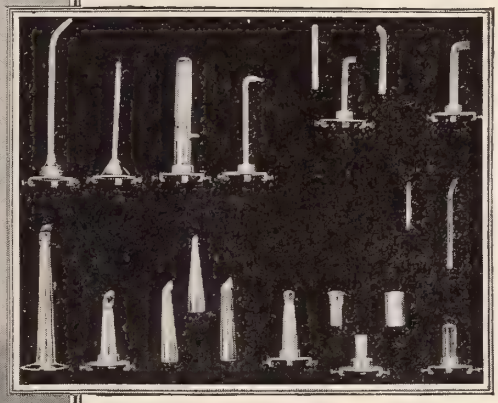
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(Concluded from page xvi.)

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THE ATLANTIC MEDICAL JOURNAL

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Issued monthly under the supervision of the Publication Committee

Vol. XXIX
Number 12

230 State Street, Harrisburg, Pa., September, 1926

Per Year, $3.00
Single Copy, 35c

RECENT STUDIES OF DIABETES IN CHILDREN*

H. RAWLE GEYELIN, M.D.
NEW YORK CITY, N. Y.

The use of insulin in the treatment of diabetes has opened to us a new and wide field of investigation. Shortly after the discovery of its therapeutic effectiveness, it became apparent that investigative effort had become chiefly interested in solving two main but somewhat different problems: (1) The nature of the physiologic and chemical behavior of insulin. (2) Observations of the effects of insulin upon the clinical course of diabetes with special reference to prognosis.

Some progress has been made in the solution of both these problems, and it is with certain aspects of the second, as it applies to children, that we propose to deal in this communication. Before attempting the recital of accomplishment along clinical lines, it seems appropriate to review briefly and reëmphasize some of the more important facts concerning the natural history of diabetes.

In the first place, diabetes may be either mild or severe, the most severe types of the disease appearing with greater frequency in the earlier decades of life, while in the later decades the large majority of cases are mild. Much has been written, controversial and otherwise, to show that mild types of diabetes may be converted into severe types of the disease. Infections, neglect of treatment, emotional disturbances, and trauma have all been assigned an important rôle in converting mild cases into severe ones. Some observers have felt that, in the majority of such instances, the conversion was permanent, and a return to the previous mild type of the disease was unusual. The prevailing opinion has become less and less in accord with this point of view. The more we see of diabetes, and the longer we follow large groups of cases, the more convinced we become that, fundamentally, there are only two types of the disease—one mild, the other severe. In the former group, individual cases (many of them) may be cited in which, because of the existence of any one or several of the above-mentioned converting agents, the disease has been changed from mild to severe diabetes, but in all these instances we are subsequently able to demonstrate that a reconversion takes place as the result of proper and faithfully conducted treatment. An essentially mild case may, for long periods during the natural history of the disease, show all the signs of severe diabetes, and yet, as a result of proper treatment, regain its original mild status and retain it until death from other causes.

The truth of this statement is well illustrated in the case of a woman, aged 52, who had had diabetes of a mild nature for ten years preceding her first visit. At this time, presumably due to the combined influences of influenza and neglect of treatment, she had developed a severe case of diabetes bordering on coma. This remained severe for eight months, during which she was never able to eat more than 35 grams of carbohydrate without showing sugar in the urine. After eight months of sugar freedom, she gradually returned to her previous mild condition, and was able to eat 400 grams of carbohydrate for a period of several months without glycosuria. For the past two years, she has eaten 150 grams or more of carbohydrates daily without sugar in the urine and without the assistance of insulin. There would seem to be no doubt as to the inherent mildness of the disease in this instance.

Conversely, the fundamentally severe cases may exhibit periods of comparative mildness, but the original and fundamental qualities of severity never disappear permanently. An extreme instance of this is the case of C. K., aged 19 (reported in detail in the *J. A. M. A.*, 1916, Vol. lxvi, page 1532, by Geyelin and DuBois). This patient was admitted in a condition of extreme acidosis, with a complete dextrose to nitrogen ratio and other clinical and laboratory evidence of maximally severe diabetes. For several months thereafter he was able to eat between 200 and 275 grams of carbohydrate, and with

* Read before the Section on Pediatrics of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

such a tolerance he died eight months later of diffuse tuberculosis. The disease had not resumed its previous severe form before death occurred.

Such instances of acquisition of temporary high carbohydrate tolerance have been observed in several other cases when the original and ensuing course of the disease left no doubt as to the fundamental severity of the diabetes. The so-called inherent progressive quality which has always resisted the best therapeutic regimen (before insulin was discovered) is characteristic of the severe type of the disease.

The course of diabetes, whether in the severe or mild forms, is variable. Tolerance for food varies considerably from year to year, from month to month, and in some instances from day to day. Wide variations in tolerance are, of course, more common in the mild types of diabetes and less striking in the severe cases. In the ultimately or maximally severe cases, little or no variation of tolerance is observed. The failure to appreciate this variability in tolerance has led to many mistakes, more particularly in the routine handling of patients with insulin, but also in interpreting the effects of any therapeutic regimen. It may seem trite to urge that every case of diabetes may be mild one month and severe the next, but a more universal recognition of this fact by patient and physician will go a long way to improve our diabetic therapy and to prevent what Joslin speaks of as "needless deaths." Furthermore, it will help many of us to understand some of the so-called vagaries of insulin treatment. Among certain patients and physicians, insulin has fallen into disrepute, partly because it has not been properly given or because excessive glycosuria has been allowed to continue, but often because variations in tolerance have been disregarded or misinterpreted.

In contrast to adults, the treatment of diabetes in children presents a somewhat different problem. The unusually high mortality that is so characteristic of juvenile diabetes is a matter of common knowledge. Some observers have gone so far as to say that in this group of cases the disease is invariably fatal. There are, however, a very few well-authenticated cases in which the disease appears to have been "arrested" or "cured." Of the reported cases, there are quite a number in which a question may be raised as to the accuracy of the diagnosis. In these so-called cured cases, not all of the diagnostic requirements of typical diabetes have obtained, and in view of our own experience with a group of glycosuric children, we have gained the impression that there is a condition which, for lack of a better name, might be called "benign" glycosuria, and that some of the averted cases reported are really not true diabetes.

We have preferred to use the term benign glycosuria instead of renal glycosuria because it is more inclusive. One of the diagnostic requirements of renal glycosuria is that the glycosuria shall be of constant occurrence throughout a considerable period of time, whereas many of these cases of benign glycosuria do not show more than an occasional presence of sugar in the urine. We are, therefore, including in the so-called benign-glycosuria group this latter type of case, together with cases of typical renal glycosuria. Many writers have objected to the term, renal glycosuria, on the ground that most of such patients eventually develop true diabetes. This is undoubtedly correct, and it has been my observation, in a limited number of cases made up from the larger group which includes all diabetes and benign or nondiabetic glycosuria, that in time the benign nature of the condition is lost, and true diabetes develops.

In the past ten years, 152 children under 15 years of age showing glycosuria have come under my care. Of these, 21 do not fulfill all the requirements of diabetes mellitus. Confining ourselves, for the present, to a discussion of this group of 21 cases, we may say that 3 of them—all under ten years of age, have fulfilled all the requirements of typical renal glycosuria over a period of more than ten years. They have never had a high blood sugar. They have always shown fairly constant amounts of sugar in the urine. They have shown none of the subjective symptoms of diabetes, and have grown and developed in a normal manner. Of the other 18 cases, 10 fulfill all the requirements of renal glycosuria except that they do not show sugar constantly in the urine. The other 8 show glycosuria only very intermittently. Otherwise, they also fulfill the diagnostic requirements of renal glycosuria..

Of the remaining 131 cases of true diabetes, 51 have come under observation at various times since insulin was first used, in August, 1922. Twelve have been constant daily users of insulin for at least two and one half years. Four have died, and all the others have been on insulin treatment for six months or longer. Of the four patients who died, one committed suicide, two died of bilateral lobar pneumonia, and the fourth died as the result of omitting insulin for one day. This omission of insulin brought about an acidosis and, although this was successfully combated, circulatory failure ensued. All the 47 living patients are receiving insulin daily, and are maturing in a normal manner, although with some, growth is lightly delayed.

Many of the original objections to the continuous use of insulin have been overcome in most of the cases. Among these objections may be cited: (1) abscess formation at the site of injection, (2) frequent insulin reactions, (3) difficulty of adjusting the dose of insulin to the diet, and (4) maintaining a sugar-free urine.

We have not had to deal with injection abscesses in any of the cases for over a year.

As regards the insulin reactions, we have noticed that after the occurrence of a few severe hypoglycemic shocks, the parents become more careful in the correct administration of food and insulin. This usually results in decreasing the incidence of insulin shocks. Another factor which seems to have had considerable influence in reducing the frequency of insulin reaction is the feeding of relatively high carbohydrate and low fat diets. The question of the effect upon tolerance of feeding such high carbohydrate diets will be taken up later.

In attempting to overcome the third and fourth objections, we have experimented at some length in each case with the time relationship of the dose of insulin to the carbohydrate of the diet. Also we have tried various ways of dividing the food during the day. In some cases, the proper adjustment between hypoglycemic reaction on the one hand and glycosuria on the other hand has not been obtained until the food has been divided into six meals per day. In other instances, the ideal adjustment has been brought about by giving as many as four doses of insulin per day, one before each meal and one at midnight. In other cases, the relief of glycosuria has been brought about by the simple expedient of transferring the night dose of insulin from one half-hour to two hours after supper. Where a patient has been on morning and evening doses of insulin only, and even when he has been on doses morning, noon, and evening, we have experienced the greatest difficulty in keeping the urine sugar free in the over-night urine or in the first specimen voided after breakfast. In the former instance, moving the night dose to a later time in the evening, or inserting a midnight dose has sometimes proved effective. In the latter type of case, we have usually been able to eliminate the morning glycosuria by moving the breakfast dose to a time from one to three hours preceding the morning meal.

It is still a mooted question as to how long the effects of a given dose of insulin will keep the blood sugar within normal limits in severe cases. In the majority of instances, it is doubtful whether a given dose of insulin is effective in keeping the urine sugar free for more than eight hours. (We are presupposing in all the foregoing discussion that the regular meals are being administered.) In a few cases, this period of sugar freedom following a dose of insulin does not last more than four hours, but in two cases in which insulin was given at 6 a. m., severe shocks with convulsions ensued after 9 p. m., in spite of three meals and in spite of the fact that no other dose of insulin was given in the meantime.

This would seem to indicate, in these patients, that insulin had not reached its maximum effectiveness until 15 hours after its administration, and that this effectiveness was reached to a degree where hypoglycemia was produced in spite of the fact that three meals had been given in the meantime.

Insulin Reactions

The symptoms typical of an insulin reaction are too well known to be detailed here. The severe forms of reaction are, of course, alarming, and, theoretically at least, dangerous to life. This is more particularly true when the onset of symptoms occurs during sleep. In not more than five of the cases reported has the insulin reaction gone to the stage of generalized convulsions. This has occurred on several occasions in three of our patients, and, in spite of the fact that at times it has been unrecognized because of its onset during sleep, there have been no fatalities. As yet we have been unable entirely to exclude such unfortunate happenings, but with our increasing knowledge and experience, the incidence of such severe reactions is becoming progressively less frequent.

The fact that two patients of similar age and equally severe conditions should show such striking differences in their response to insulin has been very puzzling. The particular difference in response to which I have reference is the relative difference in duration of insulin effects in each case. For example, Case I (see table) invariably requires four doses of insulin per day. No one of the four daily doses seems to exert an influence upon the blood sugar for more than four hours, whereas Case V, equally severe and on identically the same diet as Case I, will remain sugar free over the twenty-four-hour period on two doses of insulin, one in the morning and one in the evening, the total daily dose in each case being approximately the same.

In attempting to estimate the progress of the insulin-treated diabetic child we have devised a method for calculating the effect of insulin artificially given upon the glucose value of the diet received. The result of the effort to evaluate the glucose-burning value of each unit of insulin has been the formulation of the following plan,

TABULATED REPORTS OF SEVEN CASES OF DIABETES IN CHILDREN

Case No.	Age and Date	Ht. in cm.	Wt. in kg.	Calories	Diet			Carbohydrate			Insulin Units	Grams C.O.H. Per Unit of Insulin
					C.O.H.	Prot.	Fat	Avail.	Excret.	Used		
1	1 year											
	Nov., 1922 ...	.....	9.5	870	26	40	65	49	3	46	24	1.9
	Feb., 1923 ...	.....	10.9	800	42	39	50	65	10	55	18	3.1
	Sept., 1924 ..	88	14.4	1047	96	53	50	128	.....	128	24	5.3
	Jan., 1925 ...	91	15.4	1158	92	54	63	121	.....	121	29	4.1
	May, 1925 ...	95	17.3	1235	110	55	64	142	.....	142	40	3.5
	Aug., 1925 ...	95	17.5	1309	148	54	56	181	.....	181	37	4.8
2	12 years											
	Oct., 1922 ...	.....	19.0	1300	48	53	97	79	4	75	8	9.0
	Dec., 1923 ...	131	29.0	1770	124	60	110	159	6	153	55	2.4
	Apr., 1924 ...	133	27.0	1500	124	60	80	159	15	144	43	3.3
	Nov., 1924 ...	133	29.3	1553	125	60	90	162	40	122	62	1.9
	Jan., 1925 ...	.....	29.5	1444	79	68	95	119	14	106	47	2.2
	Feb., 1925 ...	.....	29.5	1867	130	70	119	172	16	156	47	3.3
	Aug., 1925 ...	137	39.9	1929	244	70	75	285	.....	285	71	4.0
3	7 years											
	Nov., 1922 ...	116	20.0	1800	70	68	130	109	5	104	21	5.0
	Oct., 1923 ...	.....	30.0	1300	50	50	100	79	11	68	30	2.3
	Mar., 1924 ...	127	32.0	1400	107	61	80	142	0	142	51	2.8
	Sept., 1924 ..	127	31.2	1187	130	70	80	172	.....	172	60	2.8
	Sept., 1925 ..	132	33.1	2020	250	75	80	295	15	280	46	6.1
4	15 years											
	Nov., 1922 ...	140	25.0	1800	55	70	135	96	15	81	37	2.1
	Oct., 1923 ...	.....	45.0	1660	50	60	130	85	6	79	78	1.0
	May, 1924 ...	148	44.5	1495	69	73	103	113	4	109	71	1.5
	Oct., 1924 ...	.....	45.4	1521	84	69	101	125	9	116	64	1.8
	Feb., 1925 ...	150	48.1	1294	81	67	78	120	44	76	105	0.7
	July, 1925 ..	150	55.4	1700	220	70	60	262	15	247	113	2.1
5	7 years											
	Nov., 1922 ...	105	16.0	860	20	44	64	46	16	30	22	1.4
	Apr., 1923 ...	.....	20.0	1280	57	69	82	97	19	78	29	2.6
	Nov., 1923 ...	.....	27.0	1010	50	45	70	76	5	71	30	2.3
	Apr., 1924 ...	115	26.0	1010	50	45	70	76	15	61	38	1.6
	Aug., 1924 ...	.....	.....	773	61	31	45	93	17	75	70	1.0
	Oct., 1924 ...	115	26.3	890	50	30	50	90	15	75	53	1.4
6	10 years											
	Dec., 1922 ...	112	15.0	1750	68	68	124	108	30	78	41	1.9
	Aug., 1923 ...	.....	27.0	1220	40	65	85	77	15	62	51	1.2
	Mar., 1924 ...	117	25.4	1460	75	65	100	114	.....	114	50	2.2
	Aug., 1924 ...	.....	26.9	1509	119	67	85	159	.....	159	39	4.0
	Dec., 1924 ...	121	29.6	1898	156	80	106	204	.....	204	81	2.5
	July, 1925 ...	125	32.0	2079	235	80	91	283	.....	283	74	3.8
	Aug., 1925 ...	125	34.7	2157	250	80	93	298	.....	298	79	3.8
7	16 years											
	Dec., 1924 ...	153	52.3	1501	87	72	95	126	.....	126	27	4.3
	Mar., 1925 ...	.....	54.9	1880	110	90	120	164	.....	164	37	4.1
	Aug., 1925 ...	.....	55.0	2710	250	90	150	304	.....	304	54	5.6

which was originally reported in 1924 before the Association of American Physicians. All patients have been weighed at least once a month. Their height has been taken at least twice a year. The total grams of glucose-yielding substance in the food (that is, 100 per cent carbohydrate plus 58 per cent of the protein over monthly periods) have been converted into daily averages for that period. The same method has been applied to the daily average of sugar excreted in the urine, and this, when subtracted from the average daily total glucose of the diet, gives the total used carbohydrate. The average daily consumption of insulin has been computed in the same manner, and by dividing the average daily used carbohydrate by the average daily insulin dosage, we obtained the average number of grams of carbohydrate oxidized by one unit of insulin.

That this method of computing the effect upon carbohydrate metabolism by insulin administered is not without criticism is acknowledged. One factor which tends to militate against the accuracy of the method employed is the variability of the carbohydrate content from day to day, even of accurately weighed food. The second factor is the possibility of slight variations in

strength of the different lots of insulin. A still more important source of error lies in the fact alluded to earlier in this paper—the variability from day to day of insulin production from the patient's pancreas, the so-called variation in tolerance. In spite of these and other obvious but minor objections, we feel that, in a general way, results have a comparative value in estimating the effectiveness of insulin, and, as shown in the table, are distinctly helpful in drawing conclusions as to the progress of the diabetes in respect to carbohydrate tolerance. Tables similar to the one presented herewith have been made to include all patients on insulin wherever complete data have been obtainable, but this chart aims merely to present in abridged form instances of the more striking variations in progress which have occurred.

One feature demands further comment and discussion. It will be noted that, in several of the cases at certain periods covered by the chart, we have made a striking increase in the carbohydrate intake. The extent of these increases has been quite shocking in several veteran diabetic observers. When we originally undertook to put the carbohydrate of the diet at a much higher level, we were influenced by the following facts: There were certain patients who did not do well on the lower carbohydrate and high fat regimen. These few cases were difficult to handle, in that high doses of insulin failed to keep the patients continuously sugar free, and caused an unusual number of insulin reactions. The patients were not gaining weight or strength steadily, and were complaining of hunger. In view of the observations of Allen upon the harmful effects of high fat diets on carbohydrate tolerance, we ventured to try lowering the fat and raising the carbohydrate, realizing that such a procedure would, in all probability, necessitate a striking increase in insulin requirements. To our surprise, when such diets were fed, in many of the cases not only were the insulin requirements only slightly increased, but in some instances fivefold increases in the carbohydrate fed did not necessitate any appreciable change in the amount of insulin given in order to keep the urine free from sugar. In several cases limited to adults, the insulin requirements have actually been lowered by raising the carbohydrate and diminishing the fat.

This procedure has several advantages over the accepted form of diet in insulin-treated cases. (1) A more normal proportion between carbohydrate, protein, and fat is obtained. This is also most agreeable to the patient, and in the case of children it has proved very successful in diminishing the frequency of dietary infractions. (2) As alluded to above, the higher carbohydrate diets have also tended to diminish the frequency of insulin reactions. (3) They have tended to keep the patient more constantly free from sugar, and may play some part in decreasing the risk of coma. The results, as tabulated, tend to show that the number of grams of carbohydrate oxidized per unit of insulin is in general higher when the carbohydrate is raised and the fat is diminished. We have therefore come to the conclusion that excess fat in the diet tends in some way to diminish the effectiveness of insulin in many cases of diabetes.

Experimental evidence tending to support the conclusion that insulin is more effective in the presence of high carbohydrate and low fat diets than in high fat and low carbohydrate diets is presented by Bainbridge in the *Journal of Physiology* (Vol. lx, No. 4, September, 1925, page 293). The author was able to show that groups of rats fed on diets high in fat with no carbohydrate were more resistant to insulin effects than were animals fed on normal diets. These in turn were still more resistant to insulin effects than were the animals fed on diets high in carbohydrate and fat free.

While it is true that none of the 51 children suffering from diabetes who have been under insulin treatment for varying periods of time have been able to discontinue insulin, and they appear to be very nearly as dependent upon it now as they were three years ago, one is impressed in several cases with the fact that the insulin requirements have been somewhat lowered. Even in those cases where this has not seemed true, we must remember that we are dealing with growing individuals, whose total mass and whose total metabolic process would reasonably be expected to demand increasing amounts of insulin, and in no case has the increase in the amount of insulin required to keep a given patient sugar free been commensurate with the increase of body weight. It would therefore seem that the progress of diabetic children to date offers much encouragement as to the eventual outcome. In the case reported by Boyd in which, after the continuous use of insulin for nearly two years, the patient was accidentally killed, the autopsy revealed definite evidence of regeneration of the islands of Langerhans. The insulin-treated child is still a potentially severe diabetic, but on the whole, progress in the majority of instances has occurred, and mental and physical development have taken place in a qualitatively normal manner.

Conclusions

1. "Benign glycosuria" is a better descriptive term, including cases of so-called renal glyco-

suria, and intermittent glycosuria. None of these cases have as yet developed true diabetes.

2. In a series of 51 insulin-treated diabetic children, there have been but four deaths in three years. None of these deaths could be attributed to diabetes.

3. Generally speaking, the improvement of diabetic children on higher carbohydrate and lower fat diets has been more satisfactory than in the lower carbohydrate and higher fat diets.

4. The method of estimating improvement in diabetic tolerance presented above offers suggestive evidence that improvement has taken place.

33 East Sixty-eighth Street.

Symposium on Therapeutics *

DIETETIC TREATMENT OF NEPHRITIS AND OBESITY

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With the exception of diabetes, no diseases lend themselves to restrictive dietetic treatment better than nephritis and obesity. Tuberculosis and other wasting diseases respond to dietetic handling, but in these the problem is simpler. With them, it is only a matter of adding foods of good caloric value up to the patient's capacity of digestion and utilization. In the former group, certain food elements must be restricted in each, and the total intake reduced in all the obese and most of the nephritics.

The following fundamental factors apply to both of the diseases:

(1) Sufficient food must be eaten to furnish the needed energy of the body. This is estimated at 30 to 40 calories per kilogram of body weight, for the person exercising moderately. A smaller intake than this will reduce weight, and if persisted in, may cause irreparable damage.

(2) Sufficient protein must be provided to prevent waste of muscle tissue. This is estimated to be 0.7 to 1.0 gm. per kilogram of body weight. The larger is a safer figure to work on for prolonged dieting.

(3) It is unsafe to continue a long time on a diet in which less than 10 per cent of the total calories is furnished by the protein and less than 10 per cent by the carbohydrate (Zeller).

(4) The diet must be palatable and varied, or the patient will rebel. He may become so miserable on a rigid diet that he would rather risk the indefinite consequences of his disease than regain his health with repugnant measures.

(5) From the biologic standpoint, animal proteins and fats are better than those derived from vegetables. It is held that the proteins of milk are less harmful to diseased kidneys than those from flesh. Generally considered, however, *the proteins from all sources have the same detrimental effect on diseased kidneys.* That is, it is the amount of protein taken which counts, and it makes no difference whether it be derived from chicken or fish or rare beef. Likewise, in obesity it is the quantity of fat and not its source which is important.

(6) The honest coöperation of the patient must be secured, or treatment will be only partially successful.

DIET IN NEPHRITIS

In nephritis, the intake of *protein* and *salt* is restricted. The diet is founded largely on empiric grounds, for no conclusive experiments of prolonged protein feeding have been made. It is known, however, that low protein feeding will reduce the amount of nitrogenous end products retained in the blood. It is believed that this also lessens the work of diseased kidneys, and thus some damaged tissue may have an opportunity to recover.

The ingestion of an increased amount of salt causes salt retention (average normal intake 8 to 10 gm. daily). With diseased kidneys this is marked, and increased edema with uremic symptoms may develop. Even in those whose kidneys are apparently healthy, the retention may equal that in mild nephritis.[1] Therefore, salt should be restricted even in those without edema. A mixed nephritic diet, cooked without addition of salt, contains about 2 gm. of salt a day. When edema disappears, and the patient shows an ability to excrete more salt, 2 to 4 gm. may be added. This can best be given with the meals. (An after-dinner coffee spoon even full holds approximately 1 gm., and a level teaspoonful is approximately 4 gm.) The addition of fruit juices will tend to overcome the tastelessness of salt-free food.

If edema is present, fluids should be restricted to 800 to 1,200 c.c. (25 to 40 ounces). When edema lessens and there is a fair output of urine, the quantity may be increased gradually to 2,500 to 3,000 c.c. (5 to 6 pints). The larger quantity dilutes the waste products, and thus lessens the irritation of the kidneys.

For the milder case of nephritis, with the patient attending to his regular duties, it suffices to give general instructions that he may eat

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daily: all fruits and vegetables (cooked or raw), three medium-sized slices of bread (6 gm. protein), one moderate serving of cereal (2 gm. protein), one egg (8 gm. protein), one small portion of meat (beef, lamb, chicken, or fish) (about 8 gm. protein), milk up to one quart (33 gm. protein), butter (salt free) and olive oil in moderation, one cup of coffee or tea, four glasses of water (more may be taken if there is no edema and the output is low). The food should be cooked with little salt and little or none should be added at the table. No vinegar nor spices should be used. As bread contains considerable salt, it should be further restricted if pretibial edema is present. Its place may be taken by Jewish Passover bread or triscuit, which are salt free.

This diet gives a known total of 57 gm. of protein, or 0.8 gm. per kilogram for a man of 70 kilograms (154 pounds). Additional protein will be obtained from potatoes, peas, beans, and spinach, and the total will approximate 70 gm., or 1 gm. per kilogram. This will preserve the protein balance.

The more severe cases, with an increase in the blood urea, will require a more detailed dieting, in which the protein may be more accurately determined. It is desirable to restrict this at the beginning to 25 gm. a day. As the urea retention decreases, the protein may slowly be increased to 50 or even 70 gm. I am using for these, and even for the milder ones, the excellent diet sheet of J. P. O'Hare, published in the *Journal A. M. A.*, 1923, 81: 1606. This contains practically every reasonable article of food, arranged in household measures. Patients have said it hardly seems like dieting if they may have such variety. The meat eater is grateful that he is allowed some. A sample menu for a day is made on the basis of protein permitted. The patient may then make substitutions as he wishes, so long as he does not exceed his score.

In more advanced cases, with high nitrogen retention and severe edema, the diet must be rigorously restricted. The Karrel diet offered fifty years ago serves a useful purpose with them. It consists of 200 c.c. (7 oz.) of milk at eight, twelve, four, and eight o'clock. This must be given as specified, and with no other fluid, to get the best results. It gives 26 gm. of protein, and a value of 576 calories. There will be, with it, some protein tissue waste and a decrease of blood urea and edema, corresponding to the length of time it is continued. One may dare to use such a diet in a desperate case, for it is low in protein, salt, and fluid. If it is continued no more than 4 to 6 days, the waste will be replaced as soon as more protein is given. Chace and Rose[2] have offered the following protein-free diet, which may also be used in these cases: juice of one lemon, water, 2/3 cup, milk sugar 6 tablespoonfuls, cane sugar 1 tablespoonful. This is given four times a day, and furnishes 1,424 calories. Body protein waste is well limited, for carbohydrate is "a protein sparer." Like the Karrel diet, this cannot be continued long.

From these low diets one may proceed to add protein-bearing foods according to the patient's ability to limit his urea retention. The blood urea is a sensitive index of response to treatment, for it is derived chiefly from the protein ingested, and is readily influenced by the amount eaten. The aim is to keep this near the normal or at that higher level where the patient is not in danger. It must be borne in mind that most of these patients are confirmed invalids. They are unable to take care of enough protein to furnish the 10 per cent of total calories needed for an active life. They are doomed to a quiet life with very little exertion.

Certain cases of marked edema which have resisted other measures will respond to the high protein diet of Epstein.[3] According to him, these cases have a low blood urea, and a low output of urine with a large content of albumin. This large waste of albumin reduces the normal blood proteins to such an extent that there is a decrease of osmotic pressure. The blood then loses its power to withdraw fluids from the tissues. It also contains an increase of fats and lipoids, and for this reason his diet contains little fat. It consists of: protein 120 to 240 gm., fat (unavoidable in meat) 20 to 40 gm., carbohydrate 150 to 200 gm. This provides 1,280 to 2,000 calories. It does decrease the edema rapidly in some cases, but if persisted in, will cause an increase in blood urea, with danger of uremia.

In conclusion, the dietetic treatment of nephritis, if conducted carefully, will be of marked value in preserving the lives of these unfortunates.

Diet in Obesity

It is well known that in the obese, cardiac decompensation, arteriosclerosis, and hypertension occur more readily than in those of normal weight; that diabetes occurs more often in the fat than in the thin; that obesity has been a causative factor in a large percentage of nephritics (Von Noorden); that impotence occurs earlier in obese men, and may be corrected by reduction of weight; that irregularities of menstruation in time and amount of flow may be relieved by reduction; that obesity reduces the expectancy of life, and increases surgical risk.

A statement of these dangers may arouse in the obese a greater interest in their diet, and keep them within the rules given them.

The primary consideration in all obesity diets is less food of all kinds. The patient may insist that he eats very little, and it is true that some persons fatten on little food and others do not on a great deal. The fact remains, however, that the weight of a given person depends only on the food taken, pathological conditions being excepted. The second consideration is a reduction of fats and carbohydrates.

Moderate reduction of foods is better in the beginning, except with those who are in grave danger. With moderate reduction, the stomach becomes accustomed to smaller amounts, and the body gradually adapts itself to living on its own fat. When this has occurred, the patient suffers little from hunger. Appetite grows on what it feeds upon, and one cultivates a larger capacity for food by larger consumption. The converse of this is equally true. A great reduction will cause a loss of well-being, and the patient may become discouraged. Then when his friends tell him he looks bad, he will be further depressed. If, on the other hand, he feels better, as most will, with conservative measures, such comments will have less effect. The weakness which follows rapid reduction continues until the body's requirement of calories is made up from its own fat.

In mild cases a loss of 4 to 8 pounds in a month is sufficient. This may be accomplished by lessening the amount of all food taken, and eliminating the sweets and fats (butter, oil, and fat of meats). Liquids need be restricted little if any. If such restrictions do not produce results, then the starchy foods, as bread and potatoes, may be reduced or eliminated. This will be a considerable deprivation, for fat people, like diabetes, love carbohydrates and give them up reluctantly.

In excessive overweight, and especially in those who have cardiac decompensation, a reduction of 15 to 30 pounds a month will be justified. The patient should be put to bed and limited to 1,000 calories a day. This may be done by giving three pints of milk a day. This furnishes about 50 gm. of protein, and is enough to preserve the nitrogen balance in one whose normal weight is 70 kg. (154 pounds).

The feeling of emptiness or lack of distention may be overcome by adding moderate portions of coarse vegetables which have low caloric value. These include celery, lettuce, spinach, asparagus, cabbage, sauer kraut, string beans, and cauliflower.

As results are obtained, a larger and more varied diet may be given, and exercise begun.

For the great number who lie between the two former classes, a definite plan of feeding by calories must be instituted. It has been my plan to make a moderate reduction of food at the beginning, and gradually accustom them to smaller meals. For instance one of 90 kg. (198 pounds) who, according to his height should weigh 70 kg. (154 pounds), is put upon 30 calories per kilogram, or 2,100 calories a day. This is his normal while engaged in light work. With his usual activity and this diet, he will lose 2 to 3 pounds in the first week. By this time he has overcome most of his hunger and discomfort, and further restrictions may be made if needed. The protein requirement of 0.7 to 1.0 gm. per kilogram of body weight must always be remembered.

It is my custom to give the patient a list of commonly used foods, in which the caloric value of each in household measure is set down. This list was adapted from the Department of Agriculture Bulletin No. 28, revised edition, by Atwater and Bryant. A menu for a day, including the foods he is accustomed to eat, is prepared for him. Substitutions may be made from the list, so long as he does not exceed his caloric limits. Thus variety is gained, and monotony avoided.

Some will fail to lose on the low diet ordered. This may be due to inadequate water elimination, hypopituitarism, or hypothyroidism. In the former, less water and salt may be given, and the kidneys stimulated by diuretics. Exercise in gradually increasing amounts will aid elimination. With the endocrine cases, the metabolism is low, and small guarded doses of thyroid or pituitary may be given.

Exercise must be insisted on in all cases, within the capacity of the patient. The form of exercise may be that which he prefers.

Many patients do better at the start if the diet is controlled in a hospital or by a nurse in the home. The food will be measured by some one other than himself, and he will thus more readily accommodate himself to the regimen. While scales for weighing the food are not necessary, they are an advantage at the beginning of the treatment, in order that the patient may learn the relationship between gram quantities and household measurements.

Some persons feel less well when reduced to their normal weight. Such must not be reduced. An excess of 10 to 15 pounds is not a serious matter.

Obese patients must be handled seriously, definite rules for their conduct established, and

coöperation of the individual secured if success is to follow.

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THE PRESENT THERAPEUTIC VALUE OF X-RAYS, RADIUM, AND ELECTROCOAGULATION

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Radium, x-rays, and electrocoagulation must be considered together as therapeutic agents because they are often used conjointly. These physical agents are like instruments, and must be used with the same skill and good clinical judgment as is necessary with surgical instruments.

Electrodessication is accomplished by means of the Oudin current, or monopolar high-frequency current, and is superior to anything else for the destruction of warts, moles, and precancerous keratoses. It is very useful, where practical, in the destruction of epitheliomata. It is painful, and will produce some scar. The pain can be avoided by local anesthesia, and the scar gradually fades.

Electrocoagulation consists of the coagulation of tissue by the heat which is produced because of the resistance to the flow of the high-frequency electricity through the tissue between two electrodes. It is useful in the destruction of a larger mass and more deeply located malignant disease, providing it is possible to surround the disease, and providing no large or essential blood vessels or nerves are involved in the destruction. Primary hemorrhage is avoided, there is less likelihood of dissemination during the operation, and it has a more favorable influence on the surrounding tissue than has excision. Radium or x-ray treatment should be associated in the treatment of malignant disease.

Radium, when skillfully used, is superior to all else in the treatment of epitheliomata about the eye-lids, because it produces less deformity, and less loss of tissue. The normal tissues must be carefully protected. Radium is also very valuable in the treatment of epithelioma anywhere else on the body. It is superior to all other agents in the treatment of climacteric hemorrhage. Usually a single application of a 100-milligram capsule into the uterine canal is sufficient. No serious pain or inconvenience is involved. The x-rays may be used for this purpose when radium is not at hand, but the x-ray will have less value in case an early and unrecognized carcinoma is present. A curettement for diagnosis is advisable in these cases, to eliminate carcinoma, if possible, before inserting the radium or applying the x-rays. When carcinoma is present, much more radiation must be used.

Radium and x-rays are of equal value in the treatment of uterine fibroids, and when they are uncomplicated, the hemorrhage ceases and the tumor disappears or decreases to a harmless size. In the larger ones, both radium and x-rays may be used conjointly to advantage. Those that extend to the umbilicus or above should be operated upon, unless there is some definite contraindication, because too much radiation is usually necessary to cause reduction, and there is danger of damage to the intestines.

Radiation is of superior value in the treatment of carcinoma of the cervix, providing it is skillfully and thoroughly used. Radium and high-voltage x-rays can be combined to advantage. The results accomplished by the radiologists in the treatment of inoperable and hopeless cases of carcinoma of the uterus have gradually convinced the gynecologists of the value of radiation treatment, and gradually one clinic after another has taken up this method and applied it in the borderline and operable cases, until now radiation is the method of choice in the treatment of all cases of carcinoma of the uterus, except possibly in carcinoma of the fundus. Radiation is the method of choice in operable cases, however, only if the facilities are at hand, and if sufficient skill and technical knowledge has been developed to give the treatment properly.

Many convincing tables of statistics have been prepared, but probably the ones covering the widest range, and the longest period of time are those from the Döderlein Clinic, in Munich, prepared by Seuffert.

TABLE I

CURES OF FIVE YEARS OR MORE*

THERAPY	Operation	Radiation	Completed Radiation Treatment
Total Cases Treated	265	500	Group 1— 77 Group 2— 90 Group 3—214 Group 4—119
Group 1— Still Operable	42%—110	15%—77	55%—43
Five-year Cures	46%—51	48%—37	80%—35
Group 2— Borderline Cases	22%—57	19%—90	56%—50
Five-year Cures	5%—3	20%—18	36%—18
Group 3— Positively Inoperable Cases	34%—92	43%—214	57%—121
Five-year Cures	0%—0	6%—13	11%—13
Group 4— Hopeless Cases	2%—6	23%—119	17%—20
Five-year Cures	0%—0	0.8%—1	5%—1

*Rearranged from SEUFFERT, 1923, p. 482—Döderlein Clinic.

The group of cases making up the operation statistics were treated during the years from 1908 to 1912, while those used for the radiation statistics were treated from 1913 to 1916. This makes a fair comparison, because all classes come into consideration, and since the diagnosis and classification were both made in the same clinic, in the same class of patients, true comparison can be made.

In order to make the relative values more clear, Seuffert has determined the absolute values in terms of cures (5-year), in terms of percentage of the total number treated by operation and by radiation, and in terms of the total number applying for treatment at the clinic, as shown in the following table:

TABLE II

ABSOLUTE VALUE OF OPERATION OR RADIATION IN CARCINOMA OF THE UTERUS*

Estimation of the operative values which might have been expected if the 500 cases treated by radiation from 1913 to 1916 had been operated upon, using the operative values in similar classes as shown in Table 1.

	Number of Cases	Expectant Operative Value	Expectant Five-year Cures	Per Cent
Group 1	77	46%	35	.....
Group 2	90	5%	5	.....
Total	167	.....	40	24%
Group 3	214	0%	0	.....
Group 4	119	0%	0	.....
Total	500	.....	40	8%

By comparison, the radiation value actually obtained in these 500 cases is shown below:

	Number of Cases	Actual Radiation Value	Five-year Cures	Per Cent
Group 1	77	48%	37	.....
Group 2	90	20%	18	.....
Total	167	.....	55	34%
Group 3	214	6%	13	.....
Group 4	119	0.8%	1	.....
Total	500	.....	69	14%

The total value when radiation is completed is shown below:

	Number of cases	Radiation Value	Five-year Cures	Per Cent
Group 1	43	80%	35	.....
Group 2	50	36%	18	.....
Total	93	.....	53	58%
Group 3	121	11%	13	.....
Group 4	20	5%	1	.....
Total	234	.....	67	29%

*Rearranged from SEUFFERT, p. 484.

These comparative tables show in group 1 (clearly operable cases) 46 per cent cured by operation, while 48 per cent were cured by radiation, and of those cases which completed the radiation treatment, 80 per cent were cured. The 80 per cent represented the value to the individual patient who can complete the treatment. In group 2 (borderline cases), operation cured 5 per cent, while radiation cured 20 per cent, or four times as many, and of those which completed the treatment, 36 per cent were cured. In group 3 (clearly inoperable cases), operation gave no cures, and radiation cured 6 per cent. Of those which were completely treated, 11 per cent were cured, as compared with no cures by operation. In group 4 (absolutely hopeless cases) none were cured by operation, and one case, or a little less than 1 per cent, was cured by radiation.

In the study of Table 2, which shows the absolute value, it is found that of the 265 operated upon during the years 1908 to 1912, 54 cases, or 20 per cent, were cured; but when the same curative values by operation are applied to the group of 500 patients of all classes who visited the clinic during 1913 to 1916, only 8 per cent could have been expected to be cured, while of these same 500, 14 per cent were actually cured by radiation, or nearly twice as many. The superiority of radiation, as applied to all cases, is therefore definitely established. If one considers only those cases which completed the radiation treatment, 29 per cent of all cases were cured. These tables show how rapidly the curability falls as the disease advances.

It shows the importance in carcinoma of the uterus, of teaching the public to apply for treatment at the first sign of disease; the necessity for the physician to make an immediate thorough examination and early diagnosis; and the advantage of thorough and skillful radiation treatment at once. If the fear of an operation is eliminated, these patients will apply earlier to the physician for treatment.

In carcinoma of the fundus uteri, radiation treatment is perhaps equal to complete hysterectomy, but since there are many more trained surgeons than trained radiotherapeutists the average chance of cure will probably be better from operation.

Radiation in carcinoma of the breast is undoubtedly effective in all cases. Its exact value in the early case has never been determined, because too few early cases have been treated, and in those that have, sections have generally not been removed, and therefore the diagnosis can be disputed. In the more advanced and in the recurrent cases, radiation has been shown to be of undoubted value in prolonging life, increasing the comfort of the patient, and in some

cases has produced undoubted cures. It does seem rational that the earlier a primary or recurrent case is treated the better will be the results.

As to the value of radiation in carcinoma of the breast, the reader is referred to a paper presented by Dr. Widmann and myself before the American Roentgen-Ray Society, and particularly to two of the thirteen statistical tables with reference to the duration of life in mammary cancer with radiation therapy.

TABLE III

THREE- AND FIVE-YEAR AVERAGES

Classification	Group Number	Total	Alive 3 Years	Per Cent	Alive 5 Years or More	Per Cent
Both Pre- and Postoperative Treatment	A 1	8	7	87	3	37
	B 2	13	10	77	7	54
	C 4	1	0	0	0	0
	D 4	9	3	33	1	11
Postoperative Treatment	E 4	68	45	66	31	45
	F 4	51	22	43	14	27
	G 1	22	18	81	17	77
	H 4	3	2	66	1	33
Recurrent Cases	I 3	13	9	69	7	54
	J 4	32	19	59	8	25
	K 4	10	4	40	2	20
	L 4	175	67	38	18	10
	M 4	5	2	40	0	0
	N 4	17	1	6	0	0
Primary Inoperable Cases	O 4	102	43	42	20	19
	P 4	5	0	0	0	0
	Q 4	13	8	69	6	46
	R 4	4	1	25	0	0
	S 4	2	0	0	0	0
Primary Operable Cases	V 1	29	24	82	19	65
	T 1	8	8	100	6	75
		37	32	86	25	68
Totals	.....	590	293	50	160	27

For comparison with the usual surgical longevity tables, the following grouping quickly summarizes the radiation values:

Classification	Group Number	Total Cases	Alive 3 Years	Per Cent	Alive 5 years	Per Cent
Early Operable—No Gland Involvement	1	67	57	85	45	68
Late Operable—Gland Involvement	2	81	55	68	38	46
Recurrent Operable	3	13	9	69	7	54
Advanced Recurrent and Metastatic—Primary Inoperable	4	429	172	40	70	16
Totals	.....	590	293	50	164	27

Of all cases, early and late, operable and advanced, inoperable and recurrent, 50 per cent were alive 3 years, and 27 per cent 5 years or more. In the postoperative group (G) without gland involvement, 81 per cent were alive 3 years, and 77 per cent 5 years or more. In the postoperative group (E, F, H) with gland involvement, 56 per cent were alive 3 years, and 38 per cent 5 years or more. Of the cases without gland involvement, receiving both pre- and postoperative treatment, 87 per cent were alive 3 years, and 37 per cent 5 years or more. These patients had advanced ulcerating local disease.

In the pre- and postoperative group (B, C, D) with gland involvement, 30 per cent were alive 3 years, and 18 per cent 5 years or more. The records of this group show advanced cases, and operations and x-ray treatment in many instances were intended only as palliative. Many of these cases today would be classed as totally inoperable. This explains why the percentages are lower than when only postoperative treatment was used.

The local recurrent operable group (L) shows 69 per cent alive 3 years, and 54 per cent 5 years or more. This observation is important to contrast with the usual experience of fulminating recurrences and metastases which are so frequent after excision. In our group of recurrent cases (C) there were 34 with histories of one operation before coming to us; 19 with two operations; 8 with three, 5 with four, and 4 with five—a total of 70 cases. Ewing states that statistics favor the conclusion that operation, on the whole, shortens life in the recurrent cases, and in the great majority aggravates the suffering.

In the advanced recurrent and metastatic group (J, K, L, M, N), out of 239 cases, 93 (38 per cent) were alive 3 years, and 28 (12 per cent) 5 years or more. These cases, as a whole, are so advanced that practically they may be considered as being in the terminal stages of the disease at the beginning of treatment. The above group of 70 cases, with repeated rapid recurrences following operation, is an example of the late stage of the disease in which patients come for radiation treatment. Of these 239 cases, 216 (72 per cent of this group) showed demonstrable x-ray evidence of mediastinal metastasis at the beginning of x-ray treatment. The average life of this group, after commencing x-ray treatment, was 2 years and 9 months. If we add to this the average time from operation to recurrences, which was 1 year and 4 months, we have a duration of life of 4 years and 1 month from the time of the operation. The average time from the discovery of the lump to operation was 1 year and 5 months, making a total average duration of life from the first recognition of the disease to its termi-

nation of 5 years and 6 months in these advanced recurrent and metastatic cases. This estimation includes 20 cases in which the disease was so far advanced that no treatment was given, or only slight treatment as a placebo, also 67 cases in which radiation could not be given properly. If these were eliminated, the average life after treatment would be approximately 3 years, instead of 2¾ years.

Of 126 patients in the advanced primary inoperable group (O, P, Q, R, S), 41 per cent were alive 3 or more years, and 20 per cent 5 years or more. Of this group, 93 cases (73 per cent) showed demonstrable x-ray evidence of metastasis in the chest or bones at the beginning of treatment. Yet the average duration of life from the beginning of x-ray treatment was 3 years and 4 months. The time from the first recognition of the disease to x-ray treatment, in this advanced group, averaged 21 months in 143 cases, of 807 cases so analyzed. Therefore, with radiation treatment, we have a duration of life from the beginning of the disease to its termination in this advanced inoperable group of 5 years and 1 month, or 61 months. Lee and Herendeen, in 57 cases which they class as "less advanced primary inoperable" carcinoma of the breast, find an average duration of life from the time the growth was discovered to be 4 years, or 48 months, with proper radiation.

Finney, in Keen's *Surgery,* gives the average duration of life in the untreated cases as 20 to 28 months from the beginning of the disease. Sprengle, Odekop, Sibley, and Paget, quoted by Ewing, have estimated 27, 29, 34 and 48 months, respectively, as the duration of life in the unoperated cases.

Of the inoperable primary group, 13 cases (1.3 per cent) with no demonstrable mediastinal disease became operable under radiation, and survived for an average of 6 years.

Of the early primary operable group (V. T.), 37 cases (or 86 per cent) were alive 3 years, and 68 per cent 5 years or more from radiation treatment alone. This group flatly refused operation, or there were surgical contraindications. Of this group of 590 cases, 8 (1.3 per cent) might be regarded as questionably malignant, but the clinical course in all instances would have warranted operation.

An analysis of our cases indicates very clearly the great advantage of radiation therapy in carcinoma of the breast, not only as an adjunct to surgery, but in the hopeless, recurrent, and inoperable cases. A relative comparison with the surgical groupings is possible only in the operable cases.

TABLE IV

COMPARATIVE VALUES OF OTHER CLINICS AND METHODS

Clinic	Therapy	Alive 3 Years		Alive 5 Years	
		Gland Involvement		Gland Involvement	
		No	Yes	No	Yes
Greenough ..	Surgery	47%	19%	....	....
König	Surgery	....	....	100%	39%
Bloodgood ..	Surgery	....	....	70%	20%
Lee	Surgery	....	....	....	15%
Finsterer ...	Surgery	....	....	....	4.3%
Döderlein ..	Surgery	....	....	46%	5%
Döderlein ..	Surgery & radiation not completed ...	....	....	48%	20%
Döderlein ..	Surgery & radiation total completed ..	....	....	80%	36%
Wintz	Surgery & radiation both groups	77%		48%	
Schmidtz ...	Surgery & radiation	....	....	64%	42%
Pfahler and Widmann .	Surgery & radiation	....	....	68%	46%

Table IV shows that in surgical cases, various clinics report from 46 to 100 per cent in the early operable cases and from 4 to 39 per cent in the cases where the glands are involved. Ewing believes that 4.5 per cent for five-year cures represents the average success obtained by surgical treatment. Seuffert, Schmidtz, and Pfahler and Widmann report 36, 42, and 46 per cent, respectively, in the radiation of cases showing gland involvement. The recurrent cases with glandular and mediastinal metastasis show a postoperative life of 49 months with radiation. Handley and Greenough report an average life of 29.6, and 25 months, respectively, in the late cases with surgery alone. From the first recognition of disease, the average duration of life with radiation in this recurrent group is 5 years and 6 months. The inoperable primary cases show an average life of 5 years and 1 month, against 27, 29, 34, and 48 months in untreated cases reported by Sprengle, Odekop, Sibley, and Paget.

In addition to increasing the duration of life, we, as well as others, have repeatedly demonstrated the definite value of radiation in the advanced cases. The palliation, retardation, and relief of suffering can be appreciated only by those who live in this work.

Radiation in carcinoma of the viscera has been of some value, but it should not replace surgery when surgery is possible.

Radiation in sarcoma is generally more effectual than carcinoma, and I believe is of superior

value to surgery, when the diagnosis can be made preceding operation. *Early diagnosis in all malignant disease is at present, however, our greatest hope of bringing it under control.*

Radium is probably of more value in the treatment of malignant disease than x-rays, when the radium can be brought into direct contact with the disease; but when the disease must be influenced at a more distant point, the x-rays will be found more effectual.

Radium or x-rays will cure enlarged thymus, and when symptoms are present, should be used whether the x-ray examination shows the thymus enlarged or not. The younger the child, the less treatment will be required.

Exophthalmic goiter and hyperthyroidism will yield to x-ray treatment. Radiation should be applied as soon as the diagnosis is made. Rest and medicinal treatment can be combined to advantage. Improvement is usually seen at the end of a month, and if none is seen at the end of three months, the treatment should be discontinued. We give treatment once a month. Usually six to eight treatments are necessary, distributed through a year. Simple goiter should generally not be treated by radiation.

Lymphosarcoma and Hodgkin's disease yield rapidly to radiation, but there is always danger of recurrence. The patient should be warned of this, and should be kept under observation.

Radiation in leukemia is superior to any other treatment. It relieves the patient of symptoms, enables him to work, and probably prolongs life, but according to present records cannot be expected to cure.

In the above review, only the great fields have been discussed in which these physical agents have been found useful. There are many other diseases in which good results have been produced. These cannot be discussed here. Within a period of four months, the writer has attended three annual national meetings and one international congress, in which a total of fourteen full days and some evenings have been utilized in discussing the advances in radiology. Therefore, it is self-evident that much must be omitted from a twelve-minute discussion.

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A SUMMARY OF THE PRESENT STATUS OF THE BIOLOGIC THERAPY OF DISEASES

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Biologic therapy embraces the prophylaxis and treatment of disease with the toxins of some bacteria and higher plants, various bacterial extracts and vaccines, normal and immune human and horse serums, transfusion of human blood, and various specific and nonspecific proteins of plant or animal origin.

The effects of biologic therapy may be specific, nonspecific, or an intimate mixture of the two, the latter being the usual mechanism.

The specific effects of biologic therapy are ascribed to the production and activity of antibodies, among which the antitoxins, opsonins, and lysins are most important; also to the very reverse of this mechanism, namely, desensitization or the removal from sensitized cells of the antibodies responsible for anaphylaxis and hypersensitiveness.

The nonspecific effects of biologic therapy are ascribed to a general stimulation of the tissues, with the production of leukocytosis, fever, antibodies, increased capillary permeability, and an increase of proteases and lipases of the blood.

The subcutaneous injection of three doses of diphtheria toxin protected with antitoxin (T-A mixtures) at intervals of one week, has proved successful in the active immunization of over 90 per cent of human beings known to yield positive Schick skin reactions and therefore susceptible to diphtheria. With properly prepared mixtures the immunization is safe, well borne, the immunity lasts for many years (probably for a lifetime), and the method is to be recommended, especially for the protection of children. The immunity, however, develops tardily, and for the purposes of immediate protection in the presence of intimate exposure, does not replace the subcutaneous injection of 500 to 1,500 units of diphtheria antitoxin.

Active immunization of the 20 to 40 per cent of individuals regarded as susceptible to scarlet fever on the basis of yielding positive reactions to the intracutaneous injection of the toxin of the hemolytic streptococcus of scarlet fever (Dick), is meeting with success. The doses recommended are approximately 500, 2,000, and 5,000 skin doses of toxin at intervals of a week. The injections are well borne and safe when properly prepared toxin is employed. Immunity is produced in the majority injected which is known to last for several years. The immunity, however, develops slowly, and does not suffice for the immediate protection of individuals intimately exposed to scarlet fever. For this purpose, the subcutaneous injection of 10 c.c. of antiscarlet-fever serum has been recommended.

Vaccines have proved of definite and positive value in the prophylaxis of smallpox, rabies, typhoid, and paratyphoid fevers. They are frequently of value in the prophylaxis of the common cold and whooping cough. They are of slight or doubtful value in the prophylaxis of pneumonia, influenza, bacillary dysentery, cholera, plague, and tuberculosis.

For the treatment of disease, autogenous vaccines are to be preferred to stock vaccines, and are frequently useful in the treatment of chronic bacterial diseases, especially those depending largely upon opsonic immunity, such as pure or mixed staphylococcus, streptococcus, and pneumococcus infections.

The careful and prolonged subcutaneous injection of tuberculin frequently proves of value in the treatment of chronic tuberculosis, and especially of surgical tuberculosis.

The subcutaneous injection of immune horse serums has proved of definite and positive value in the prophylaxis of diphtheria and tetanus; apparently of value in the prophylaxis of scarlet fever; and of doubtful or probable value in the prophylaxis of gas gangrene. Immune or convalescent human serum is apparently of value in the prophylaxis of measles, and of probable value in the prophylaxis of mumps.

The injection of horse immune serums has proved of definite and positive value in the treatment of diphtheria, tetanus, and meningococcus meningitis; in tetanus and meningitis best results have followed intraspinal injections.

In scarlet fever, the intramuscular injection of properly prepared and standardized anti-scarlet-fever serum has usually afforded prompt relief from the lesions and symptoms of the toxemia, along with a reduction in mortality and the incidence and severity of complications.

In the treatment of Type-I pneumococcus pneumonia the intravenous injection of anti-pneumococcus serum has proved of some value, by removing bacteremia, preventing extension of the disease, and reducing mortality. In the treatment of this and the pneumonias caused by other types of pneumococci, the intramuscular or intravenous injection of Huntoon's pneumococcus-antibody solution has proved of equal value without the danger of anaphylaxis. In the treatment of pneumococcus meningitis, anti-pneumococcus serum has failed; Huntoon's antibody solution by subcutaneous and subarachanoid injection is worthy of trial.

Antistreptococcus serum is frequently of value in the treatment of streptococcus cellulitis, puerperal sepsis, and septicemia, when given early and in adequate dosage (50 to 100 c.c. by intravenous injection). It is of no value in streptococcus endocarditis, and of but doubtful value in streptococcus meningitis.

Immune serums are sometimes of value in the treatment of anthrax, influenzal meningitis, severe gonococcus infections, severe erysipelas, bacillary dysentery, and snake bites. A specific anti-erysipelas serum is now available.

Human convalescent serums are of some value in the treatment of acute anterior poliomyelitis (by intraspinal injection), scarlet fever, measles, and influenzal pneumonia.

Preseasonal desensitization has proved of value in the treatment of a fair proportion of cases of autumnal hay fever when a large number of injections have been given. Less success has attended the desensitization of spring and summer hay fever because of the larger number of pollens usually responsible. Little or no success has been obtained in the treatment of vasomotor rhinitis.

Considerable success follows the treatment of allergic asthmas by removal of the exciting agents, sometimes aided by desensitization by injections of extracts of the agents supplemented by injections of autogenous vaccines for the bacterial bronchitis which may be present.

Desensitization of individuals extremely susceptible to foods, horse serum, or drugs is rarely completely successful, although partial desensitization is sometimes accomplished.

Immune or normal horse serum should never be injected into individuals known as or suspected of being "horse asthmatics"; fatal anaphylactic reactions usually result.

Immune or normal horse serum by *subcutaneous* or *intramuscular* injection may be safely given to individuals previously injected with horse serum. Serum sickness, however, usually follows, and preference should always be given to concentrated or refined serums in order to reduce their incidence and severity to a minimum.

Immune or normal horse serum by *intravenous* and *intraspinal* injection in individuals previously injected with horse serum, is always more dangerous and requires precautions against acute anaphylactic shock.

The subcutaneous or intramuscular injection of so-called nonspecific protein agents like sterilized milk, Coley's fluid, peptone, snake venom, etc., have been apparently successful in the treatment of some chronic bacterial infections like iritis, arthritis, and gonococcus infections of the female and male generative organs. Intravenous injections of typhoid vaccine, peptone, distilled water, and other agents have likewise proved of some value in the treatment of arthritis, neuritis, etc.

Coley's fluid has proved of value in the treatment of some cases of sarcoma.

Blood transfusions have proved of positive and definite value in the treatment of melena neonatorum and other severe hemorrhages due to accident or disease; also of some value in carbon-monoxid poisoning, hemophilia, purpura hemorrhagica, acute septic infections, and pernicious anemia.

Biologic therapy at present has nothing to offer in the way of specific prophylaxis or treatment of cancer or syphilis, although the injection of various serums, vaccines, milk, and other protein agents may produce some beneficial effects by nonspecific stimulation of the tissues.

ABSTRACT OF DISCUSSION

OF SYMPOSIUM ON THERAPEUTICS

GEORGE M. DORRANCE, M.D. (Philadelphia, Pa.): In diagnosing cancer it is not possible to put faith in the pathological report. In a case of ours a man of 25 had, clinically, carcinoma of the arm. On examination of a section, one pathologist said it was chronic inflammation, another said it was malignant, and a third said it was sarcoma engrafted on carcinoma—something he had never seen before. The arm was amputated and further examinations made, with doubtful results. Finally, a little gland above the axilla was found to be carcinomatous. Such errors are not the pathologist's fault. He must be provided with a piece of tissue that is typical of the growth.

We have come to the conclusion that it is best to use both pre- and postoperative radiation for the glands of the neck in cases of malignancy of the mouth. We have tried radium seeds in both very high and very low dosage, and have two patients alive who had distinct carcinoma of the neck. In these cases, a moderate amount of radium emanation was placed in the neck after complete surgical removal. The best results have been secured by radiation and operation, followed by radium seeds placed in the neck at doubtful points, and later by exposure to radium. This is radical treatment, but that is what cancer requires.

DR. PFAHLER (in closing): A great deal has been accomplished by Professor Regaud's treatment of the glands of the neck by prolonged radiation with gamma rays, extending over days. This has produced better results than any other method of radiation or any combination with operation. We have had some rather brilliant results by that procedure.

Studies in the Diagnosis of Nontuberculous Pulmonary Lesions*

BRONCHOSCOPIC ASPECTS IN THE DIAGNOSIS OF NONTUBERCULOUS PULMONARY DISEASE

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Direct inspection is always of distinct value in diagnosis, but it must be remembered that in diagnosis of pulmonary disease the entire lungs are not open to inspection. It is possible to see into the larger bronchi. The minute branches cannot be inspected by any endoscopic means. However, secretion can be observed coming from the orifices of these small branches, and uncontaminated specimens of this can be removed for laboratory study.

Bronchoscopic inspection should be considered as only one of a number of diagnostic measures. In some instances it is extremely important, in other cases it is of only limited value. Positive findings are of the utmost value; negative findings can be considered of little importance, and are often negligible. We can always say when a bronchus is obstructed, also observe the nature of the obstruction and very often its extent. In many cases we not only can contribute to the diagnosis, but can also remove the obstruction.

*Read before the Section on Medicine of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

It should be understood clearly that bronchoscopy, as a diagnostic measure, supplements but does not supplant physical examination or roentgen-ray study of the chest. As a means of diagnosis, bronchoscopy is third in the order of importance; in fact, in practically all chronic

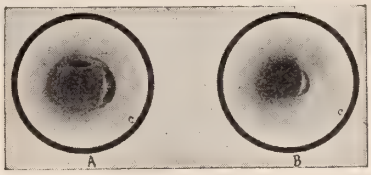


Fig. 1. (a) Normal endoscopic view of the right main bronchus. (b) Appearance of the right main bronchus in the case of compression stenosis.

pulmonary cases and in many acute cases it should rank fourth, laboratory studies taking precedence. To take the attitude that a bronchoscope should be introduced because a patient has evidence of lung disease is incorrect. Further light on the case is required before this procedure should be carried out. In a certain percentage of cases, after thorough clinical, roentgenological, and laboratory studies have been made, certain diagnostic questions remain which must be investigated further, and in these, bronchoscopy is often of inestimable value.

Obstruction of the trachea or a bronchus, a common clinical finding, is very often met with in obscure cases of pulmonary disease. The causes of obstruction are many and varied, and it is in these cases that diagnostic bronchoscopy enjoys its greatest field of usefulness. Obstruc-

tion is often followed by pulmonary suppuration, but it is not always the cause of the suppurative process.

Bronchoscopy for the diagnosis of nonmalignant tracheal or bronchial obstruction.—Among the many kinds of nonmalignant obstruction encountered at the Bronchoscopic Clinic, the following may be enumerated: (1) obstruction resulting from foreign bodies (probably the most frequent), (2) endobronchial pathology, (3) compression stenosis, (4) peribronchial pathology, (5) congenital anomalies, (6) benign growths.

In foreign-body obstruction, the clinical and x-ray findings are absolutely invaluable in the diagnosis, and these examinations should always be made preliminary to bronchoscopy; yet roentgenologists or internists frequently call on the bronchoscopist to supplement their findings. Exceptions to this routine may be necessary in cases of urgent dyspnea or in very large foreign bodies.

Endobronchial pathology producing signs of obstruction may consist of granulations, acute edematous inflammations, chronic cicatricial stenoses or cicatrices resulting from pulmonary suppuration, trauma, lues, and tuberculosis, or cicatrices secondary to infections complicating these lesions.

The author observed bronchoscopically a cicatricial stricture of the left main bronchus in the case of a young woman, aged 21 years, who was referred to the Bronchoscopic Clinic by Dr. Solomon Solis Cohen with a diagnosis of lung abscess complicating pneumonia of the left lower lobe. The strictured lumen was about 4 mm. in diameter, and interfered seriously with the drainage of pus from the lower lobe. This fact, which could be determined only by endoscopic inspection, had a very important bearing on the subsequent treatment of the case.

Another striking case of cicatricial stenosis of the bronchus was observed by Dr. R. M. Lukens in a patient with bronchiectasis.[1] The strictured area was well demonstrated by pneumonography.

Compression stenosis, with or without deviation of the trachea or bronchi, may be produced by goiter, cervical or substernal, aneurysm and mediastinal masses, either benign, malignant, inflammatory, or glandular, producing peribronchial pathology. Enlargement of the thymus can produce extreme compression of the trachea. Compression of the left bronchus has been observed in enlargement of the heart. Among the less common causes of tracheal compression may be mentioned mediastinal[2] and pulmonary emphysema.

While a differential diagnosis of these conditions cannot, as a rule, be made by bronchoscopy alone, the findings, when considered in conjunction with the roentgenological studies and the physical examination, will often contribute towards explaining certain symptoms or signs, and will enable the internist to make a diagnosis with greater accuracy. This was well demonstrated in the case of a woman, aged 45 years, who was sent to the Bronchoscopic Clinic by Dr. C. M. Luman for bronchoscopy to determine the cause of a peculiar brassy cough which occurred in frequent and explosive paroxysms. Dr. Lawrence Litchfield and Dr. George W. Grier had seen the patient in consultation, and by physical examination and roentgenology had ruled out foreign body, aneurysm, and malignancy. The cough suggested some form of localized pressure on the air passages. The x-ray showed some enlargement of the glands at the roots of both lungs. Diagnostic bronchoscopy was strongly advised. This was done under local anesthesia, and revealed a compression stenosis of the right stem bronchus, the lumen of which was only about one half of its normal diameter (figure 1). There was nothing observed to suggest malignancy.

Another case, in a girl aged 12 years, presenting the symptom of unexplainable cough was referred to the writer by Dr. H. K. Mohler for diagnostic bronchoscopy. In this case, there was found marked widening of the angle of the tracheal bifurcation, with a compression stenosis of the left main bronchus.

Congenital anomalies are uncommon. When present, the diagnosis can be made only by bronchoscopy. An excellent example of this was seen in the case of a boy, aged 3 years, with a suspected peanut in the left main bronchus. Bronchoscopy by Dr. Chevalier Jackson revealed a web stenosis occluding the orifice of the left main bronchus.

Benign growths in the trachea or bronchi can be detected without difficulty by bronchoscopy. In a diagnosis of benign tumors, it is important definitely to rule out malignancy, a question which can be settled by biopsy at bronchoscopy. With these growths should be included not only the true benign neoplasms, but also aberrant thyroid tissue, masses of granulations, and edematous polypi.

Bronchoscopy for the diagnosis of malignant tracheal and bronchial obstruction.—Next to its usefulness in foreign bodies in the air passages, bronchoscopy has developed its greatest value in the diagnosis of malignancy of the lung. Two facts stand out very prominently in the literature of malignancy: first, that cancer of the lung presents benign characteristics, so that if the

diagnosis is made early, chances for a cure should be excellent; and second, that the diagnosis is never made early, in fact it is too often made in the autopsy room. To this should be added a third conclusion; namely, that an early diagnosis of malignancy can be made only by bronchoscopy. There is absolutely no diagnostic means in early malignant disease except bronchoscopy. Maclachlan[3] believes that bronchoscopy affords the earliest means of recognition of a tumor having its origin in the lining of the accessible bronchi. LeWald[4] in commenting on a case of squamous-cell carcinoma of the bronchus, observes that bronchoscopic examination would have been of great aid in this case.

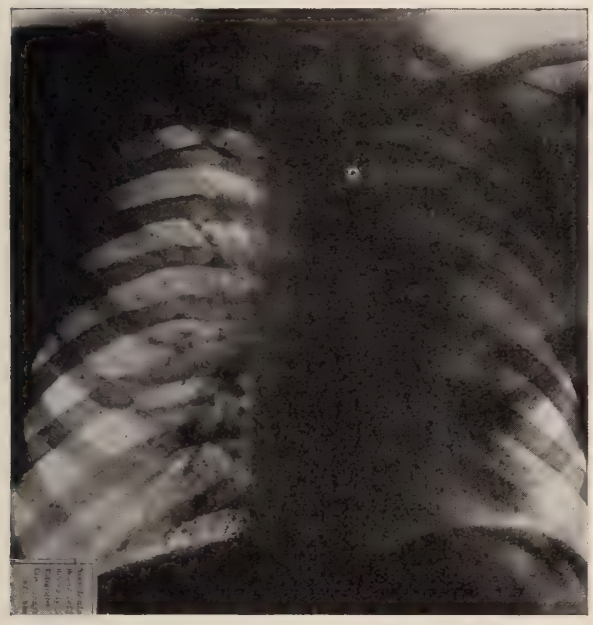


Fig. 2. Roentgenogram showing marked density over the entire left upper-lobe area. This was believed to be due to exudate filling the entire upper lobe. The cause of this was not apparent, and a massive new growth could not be excluded (Report by Dr. W. F. Manges). The diagnosis of carcinoma of the left bronchus was made by bronchoscopy.

The possibilities of early diagnostic bronchoscopy in these cases are clearly evidenced by the remarkable case of endothelioma of the bronchus reported by Chevalier Jackson.[5] The pedunculated tumor, completely removed by bronchoscopy, was reported, on histologic examination, to be malignant. This case also demonstrated the excellent coöperation between the internist, roentgenologist, and pathologist preliminary to bronchoscopy. Orton[6] reports the case of a man, aged 29 years, in whom bronchoscopy revealed a growth in the bronchus which was completely removed bronchoscopically. James Ewing diagnosed the tissue as carcinoma. Greene[7] did a diagnostic bronchoscopy in the case of a young woman, aged 19 years, because of unexplained chest symptoms, and found a bronchial tumor which was examined histologically and reported as malignant.

A man, aged 38 years, was seen by Dr. E. J. G. Beardsley in consultation with the writer, because of unusual and obscure chest findings. Dr. W. F. Manges, who made the roentgen-ray studies (figure 2), concurred in this, and both he and Dr. Beardsley advised bronchoscopy. At bronchoscopy, there was found a fungating mass completely occluding the left upper lobe bronchial orifice. A specimen of tissue removed was reported by Dr. B. L. Crawford as malignant.

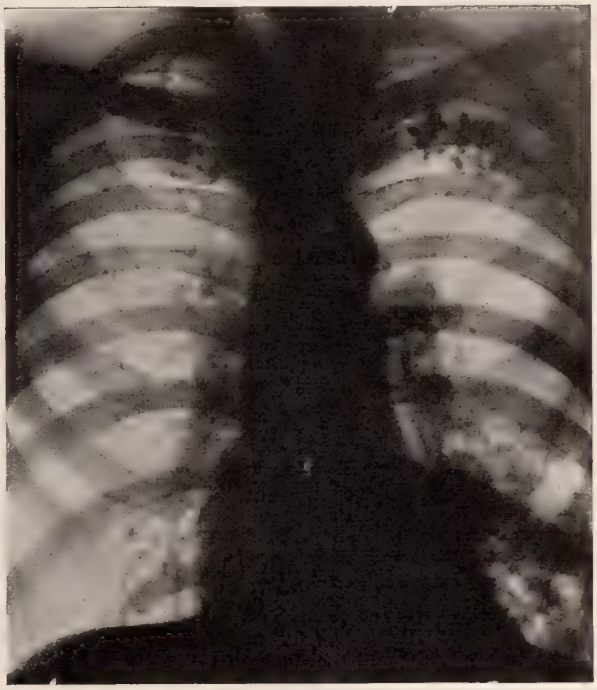


Fig. 3. Roentgenogram made by W. F. Manges, which shows extensive calcareous deposits in the upper part of the left upper lobe, and a chronic infectious pneumonitis, bronchiectasis, and fibrosis involving the left lower lobe. A diagnosis of malignancy of the left lower lobe was made by bronchoscopy.

The following very remarkable case, recently observed, demonstrated conclusively the value of diagnostic bronchoscopy in cases of obscure chest pathology which could not be satisfactorily diagnosed by physical examination, roentgen-ray studies, and laboratory findings. A male, aged 47 years, was admitted to the Bronchoscopic Clinic for cough with marked expectoration, severe pain in left chest, fever, and weight loss. His illness dated back two years, when he had contracted a cold and developed a severe cough. He had received sanatorium treatment for suspected tuberculosis which had never been verified bacteriologically. On admission, his temperature varied from normal to 103°. The daily sputum output varied from 275 to 500 c.c. On sedimentation, it separated into an upper clear layer and a lower turbid layer consisting of thick pus.

Repeated sputum examinations were negative for the tubercle bacillus. There never was hemoptysis. Dr. E. H. Funk found lesions, probably quiescent, in the left upper lobe, and extensive basal pathology suggesting a chronic inflammatory process with bronchial obstruction. There were also signs of a recent pleurisy. Dr. W. F. Manges found pathology suggesting an old, healed process in the left upper lobe, with an extensive chronic infectious pneumonitis and bronchiectasis, nontuberculous in character, involving the lower lobe (figure 3). Both he and Dr. Funk advised bronchoscopy. This revealed almost complete obstruction of the orifice of the left lower lobe by a new growth (figure 4). A specimen of tissue removed bronchoscopically was reported by Dr. F. W. Konzelman as squamous-cell epithelioma. Dr. J. H. Gibbon advised against surgical intervention because of the extent of the growth. Would an early diagnostic bronchoscopy have influenced the surgical opinion and the probable ultimate outcome?



Fig. 4. Illustration of the bronchoscopic appearance of the case of squamous cell epithelioma of the bronchus observed by the author. The growth almost completely occluded the bronchial lumen. Its surface was irregularly lobulated and granular, pale in color, and did not bleed freely when a specimen was removed for histologic examination.

In this case, as in practically all others, sooner or later the growth becomes obstructive to certain areas of the lung, and then is attended with suppuration.

Bronchoscopy in the diagnosis of nonobstructive cases.—In this group may be included cases of pulmonary abscess, bronchiectasis, bronchial asthma, and other forms of bronchial infection not associated with signs of bronchial obstruction. There are cases of lung suppuration occasionally met with which present difficulties in the accurate localization of the process by physical examination and roentgen-ray studies. Often the question of diagnosis of an obscure bronchiectasis or some form of suppurative bronchitis presents itself. Bronchoscopic inspection of the interior of the tracheobronchial tree permits of localization of the suppurative processes, gives information regarding the condition of the bronchi and the appearance of the mucous membrane, allows the introduction of a radiopaque substance to aid the roentgenologist, and offers a means of securing an uncontaminated swab specimen of secretion for bacteriologic study, thus supplying additional data towards arriving at a more accurate and complete diagnosis.

Comment

The sphere of usefulness of bronchoscopy in diagnosis may be indicated by the following quotations which are often incorporated in the reports submitted by the internists and roentgenologists who see cases in consultation at the Bronchoscopic Clinic. The internist states that "there is pathology in the right lower lobe the nature of which is obscure. A diagnostic bronchoscopy is indicated." The roentgenologist reports that "there is obstruction to the right lower lobe bronchus. A diagnostic bronchoscopy is advised."

Close coöperation between the internist, roentgenologist, pathologist, and bronchoscopist is imperative if the best results in diagnosis are to be secured for the patient suffering from pulmonary disease. To quote Chevalier Jackson, "the internist can tap, look, and listen on the outside, the roentgenologist can look through the patient. Add to these the bronchoscopist who can look inside the lung, and we have a tripod on which to base our diagnostic studies, and there would be fewer cases in which a positive diagnosis could not be reached."

Conclusions

Repeated personal observations on the satisfactory application of this combined method of arriving at a diagnosis which is employed at the Bronchoscopic Clinic has led to the following conclusions:

1. Bronchoscopy as a diagnostic aid is supplementary to complete clinical and radiographic studies.

2. Bronchoscopy for diagnosis is indicated in all cases of pulmonary disease in which there is a diagnostic question remaining after physical examination, and roentgen-ray and laboratory studies have been carried out.

3. Bronchoscopy may be of aid in diagnosis in any patient with pulmonary disease in whose sputum no tubercle bacilli can be found.

4. In any case of pulmonary disease in which there is doubt as to whether bronchoscopy should be done or not, bronchoscopy should always be done provided there are no definite contraindications.

From the Chevalier Jackson Bronchoscopic Clinic, Jefferson Hospital.

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ROENTGEN-RAY DIAGNOSIS OF NONTUBERCULOUS DISEASES OF THE LUNGS

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The chest lends itself to roentgen-ray study very well, by means of both the fluoroscope and films, because the tissues within this part of the body are of such make-up and arrangement as to give shadows of fine detail and excellent contrast in the normal, and in diseased states, the density, arrangement, detail, or contrast in these shadows change so that positive shadow effects are obtained as a rule.

Nontuberculous lesions of the chest are numerous. The subject simply cannot be covered in ten or fifteen minutes, so that we shall limit our efforts to demonstrating the applicability of roentgenology to the diagnosis in a variety of conditions, some of them resembling tuberculosis in certain ways and others different in their manifestations.

One must naturally have an idea of the appearance of the normal chest. The diaphragm outline is smooth, and the heart and aortic shadows are readily recognized. These three structures bear such a relation that there is variation in the normal, due to the type of physique, and there is considerable variation in the normal with regard to the size of the heart. The structures at the roots of the lungs, including the larger bronchial tubes, the large blood vessels, the lymphatic glands, and connective tissue, cast shadows that stand out in the picture. It is extremely difficult to determine what is normal in this area. One nearly always sees evidence of enlarged and hardened glands, and there is the widest variation in the amount of shadow-casting tissue in this region in cases that have no pulmonary symptoms whatever. One must learn by practice whether or not the thickening at the root of the lung is in excess, or whether there is more glandular enlargement than should be present as the result of past inflammatory conditions. For instance, calcareous deposits in glands in this region are extremely common findings, and, I think, have very little if any clinical significance. The detail of the bronchial tubes outside of the root area is such that one can trace the branches to within an inch or more of the surface. They are usually heavier in the lower lobes than in the upper. In the normal, the parenchymal shadows from apex to base are uniformly clear.

In tuberculosis, the lesion is always in the upper lobes; that is, it starts in the upper lobes and, as a rule, very near the apex. It involves the lungs from apex to base in a progressive manner, and, if advanced at all on one side, involves the opposite apex almost without exception. One must see the characteristic evidence of tuberculosis—in other words, shadows of the tubercles—before he can make a positive diagnosis of this disease.

Other infections do occur in the upper lobes, but by far the majority of other infectious lesions involve the lower half rather than the upper half. The nontuberculous lesion that most frequently involves the upper lobes is abscess.

One patient with an abscess in the right upper lobe as a sequel to a pneumonia was walking around, and was thought to have tuberculosis because of his prolonged illness. The radiograph showed a shadow very characteristic of lung abscess—an area in the lung, more or less sharply circumscribed, the density of which was homogeneous. Outside of this area, there were no shadows which might be considered tubercle shadows. There was not an air-containing cavity present, but that was merely because there had been no communication with a bronchus. This abscess was in close relation to the chest wall. It was evacuated surgically, and the patient made a perfectly satisfactory recovery.

Lung abscess may occur, of course, in any other portion of the chest, and it may be either a metastatic process, or the result of pneumonia, or the result of aspiration of infectious material. Wherever it occurs, the shadow characteristics are the same. The diagnosis becomes strictly positive only when the abscess communicates with a bronchus, and the cavity contains some air as well as pus. One can then, by placing the patient in different positions, get radiographs showing fluid levels, and can outline very accurately the size of the cavity.

The roentgen-ray study offers the best possible means of localization of lung abscess, and, when centrally located, it may be the only means of making a diagnosis. In one case, the abscess may be in close relation to the chest wall, and more accessible to surgical interference than any other method of treatment; in another it may be in relation to a fairly large bronchial branch, in which case it may rupture into the bronchus and discharge, or be accessible to bronchoscopic drainage.

In one case in which the abscess was centrally located, it gave absolutely no physical signs, even though posttonsillectomic abscess was suspected. The diagnosis was made only by means of the roentgen rays. Another advantage of the roentgenogram is that it enables following up the progress of the condition, and shows the effect of treatment. Bronchoscopic drainage aided very greatly in this case.

Foreign bodies of long sojourn cause pathologic changes very frequently mistaken for tuberculosis. It happens more than occasionally that we find foreign bodies in cases that have been treated in tuberculosis sanatoria for a considerable length of time without roentgen-ray examination or positive sputum. Occasionally we find foreign bodies in patients who do have tuberculosis. When the foreign body is metallic or dense enough to cast a positive shadow, the roentgen-ray diagnosis is not difficult as a rule; but even metallic foreign bodies may be obscured by dense pathologic processes and overlying tissues. For instance, a metal pencil cap in the left lower lobe was difficult to demonstrate because of the heart and the dense pathologic lung tissue in the region of the foreign body. It required overexposure and very careful technic to show the pencil cap. Then, again, it is possible to misinterpret dense shadows as foreign bodies, and overlook the evidence of a foreign body or other pathologic lesion in other parts of the lung.

This point is well illustrated by a case from New Zealand that came to Dr. Jackson at the Jefferson Hospital with a diagnosis of foreign body in the right lower lobe. He brought with him radiographs showing a dense body in the right lower-lobe area, rather far external to the usual site of foreign bodies. It was shaped like a half button, except that it was thicker than any half button we knew about. At the same time, there was evidence of pathology in the bronchial distribution where the vast majority of foreign bodies usually go, while the lung tissue was perfectly clear in the region of the dense calcareous shadow. We believed that the dense shadow was not a foreign body, but that there was probably a foreign body, nonopaque to the rays, in the area which was shown to be pathologic. The status of the dense body was further determined by fluoroscopic bronchoscopy, in that it was shown to be outside of a bronchus. Dr. Jackson finally removed the foreign body from the posterior branch of the right lower lobe bronchus, or, in other words, from the location where there was definite evidence of a chronic infectious process in the lung tissue.

We believe, from the numerous cases of foreign bodies and the type of lesion in the lung that accompanies them, that many cases of bronchiectasis of the lower lobes are due primarily to infection following the aspiration of foreign bodies. The foreign body may be only a particle of food or a bit of vegetal material or some apparently insignificant inorganic substance.

Acute abscesses following very soon after aspiration of infectious foreign bodies, such as teeth or fragments of tonsil tissue, may at times have almost the same roentgen-ray appearance as a pneumonia, so that one must have clinical facts and history to make a proper interpretation. Except where the foreign body casts a distinguishable shadow, only roentgenograms of the best quality should be accepted.

Acute massive collapse of the lung, following abdominal operation, is another condition in which roentgen rays can give definite help. The physical signs and clinical manifestations are at times not unlike those of pneumonia, but we know that there is very little, if any, diminution in the size of the lung in a pneumonia, while in acute massive collapse there is marked diminution in the size, and this can be clearly demonstrated by either the fluoroscope or the roentgenogram.

Atelectasis from other causes is equally well demonstrated by means of the rays. The remarkable changes that occur, following aspiration of vegetal foreign bodies, and that can be shown so well by means of the rays, present really difficult problems from the viewpoint of physical diagnosis except for those who have had the privilege of studying many cases. These changes occur as the result of mechanical obstruction of the trachea or bronchi, as the result of accumulated exudate, or as the result of infection. They may vary from day to day, and may change from one lung to another with the utmost suddenness. These changes can be observed at the fluoroscope, or can be demonstrated by means of films. We have seen complete atelectasis of a lung follow within a matter of hours after a bean had lodged in a bronchus, and again, within a few hours after removal of the bean, the lung had expanded completely and had returned to normal function. We have seen a prune seed produce complete atelectasis of a lower lobe on one day, and on another day, the same prune seed produce atelectasis of the upper lobe on the right side and obstructive emphysema of the middle and lower lobes. We have seen metallic foreign bodies shift from one side to the other without warning, so that, whenever possible, one should visualize the changes that occur in connection with foreign bodies.

For diagnosis of new growth in the lungs, we require both the roentgen rays and clinical data, and even then the bronchoscopist may have to clear up the matter by direct visualization or by removal of a specimen for microscopic study, although primary new growth in the lungs is found very much more frequently now than it was prior to the days of the roentgen-ray.

In the diagnosis of metastatic lesions of the lungs, the roentgen rays are by all means the most reliable agent to detect early involvement or to show the extent of the lesion. The infiltrating type of metastatic carcinoma may resemble inflammatory lesions in the distribution and density of the shadows, and in the miliary type, in which there are large numbers of small metastatic nodules, the shadows are not unlike certain types of pulmonary tuberculosis. The roentgenologist must look carefully for metastases of other structures or a history of primary growth in some other part of the body, and even then, he must at least know that there has not been a chronic infectious process or that the patient is not luetic. Sarcoma metastases are more characteristic in appearance, being sharply circumscribed, isolated, and round, and always multiple.

In cases of bronchiectasis, much valuable information can be had from ray studies, and especially in conjunction with lung mapping by means of bronchoscopic insufflation with bismuth subcarbonate or the injection through the bronchoscope of iodized oil. In this way, one can very clearly show the extent of the destruction, the size and location of cavities, bronchial obstructions, and that sort of thing.

Asthma is a rather common pulmonary condition, and, while there is nothing strikingly characteristic of the affection, yet the roentgen rays frequently give valuable information. Quite a large percentage of asthmatics also have chronic fibroid tuberculosis; in a few we find foreign bodies; in others we find abnormality with regard to the heart; and in still others there are functional disturbances, so far as the breathing mechanism is concerned, that predispose to breathing difficulties.

We might continue to illustrate the advantages of this method of diagnosis in diseases of the pleura and the circulatory organs, as well as other lung conditions, but time does not permit.

In conclusion, we would venture to say that any pathologic process involving any portion of the lung that is capable of producing physical signs and symptoms, can also be demonstrated by means of roentgen rays. The converse is not necessarily true. Any chronic pulmonary lesion must be suspected of being due to tuberculosis until proved otherwise, but proof is never secure, one way or the other, without a roentgen-ray examination. Very often such an examination is delayed too long, especially in the case of children. Early roentgen-ray examination is to be recommended in all diseases of the chest.

235 South Fifteenth Street.

Symposium on Eczema*

ECZEMA IN INFANTS, CHILDREN, AND ADULTS

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Eczema in Infancy

Infants frequently develop a red congested condition of the cheeks which becomes moderately edematous and infiltrated, and finally discharges serum from minute, rapidly forming and rupturing papulovesicles. The serum dries into crusts which pile up, one over the other, inducing further congestion and its sequel. The eruption also appears on the chin and forehead, and not infrequently on the scalp, neck, upper trunk, buttocks, and flexures of the elbows, groins, and knees, and at times along the extensor surfaces of the extremities. As a rule, the affected areas are extremely itchy, as evidenced by the rubbing and scratching in which the infants indulge. Only the patchy erythematous or papulovesicular eruptions with typically eczematous characteristics should be called eczema, and these have problematical internal causes of either metabolic origin (such as an unbalanced diet, food fault, allergy, or idiosyncrasy, and possibly lowered alkalinity) or reflex origin (such as overfeeding or too rapid feeding, constipation, teething, insufficient rest, phimosis, etc.).

All eruptions in infancy with an eczematoid appearance are not eczema, though an original eczema is often converted by its favorable soil into other dermatoses, particularly those due to the implantation of low-grade pyogenic cocci and seborrhea.

Impetiginized eczema is due to the implantation of low-grade staphylococci on an eczematous area, while an impetiginous dermatitis is a similar process developing spontaneously. Both conditions occur frequently, and produce thick brownish-yellow crusting on an inflamed dull red base.

Seborrheic dermatitis is due to the implantation of seborrhea on an otherwise normal skin, and because of its eczematoid appearance it is most frequently mistaken for eczema. It usually affects the eyelids, postauricular areas, and scalp, as well as the face, upper trunk, and large flexures. The dull pinkish-yellow color of the affected areas, with greasy scaling rather than crusting, must not be confused with eczema, though it usually is. The course is more chronic and the infiltration and oozing much less than that of eczema.

* Read before the Section on Dermatology of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 6, 1925.

Napkin eruptions of the buttocks and upper thighs have an erythematous onset, and subsequently develop small, flat, bright red erosive papules, with small shining adherent crusts. This condition, due to the so-called ammoniacal diaper, need not be confused with eczema.

Eczema in Childhood

Dermatoses with an eczematous character, and the word "eczema" means nothing more, are frequent in childhood. These are, clinically, circumscribed patches or diffuse areas of dermatitis in either an acute stage of congestion and infiltration with oozing and crusting papulovesicles, or a subacute stage of dull redness, moderate infiltration, and a mixed covering of scales and crusts, or a still later and more chronic stage of lichenification, which is a dull red, leatherlike thickening of the skin, due to exaggeration of the normal skin ridges from persistent itching and rubbing.

Sensitization to a food protein, or a split-protein product of the food, is the chief etiologic consideration, and through cutaneous food tests and biochemical research much knowledge is being gained regarding this mysterious and baffling condition.

Many children with eczema give a history of repeated recurrent attacks dating since infancy. The areas usually affected are the face, neck, upper chest and back, and the flexures of the elbows, groins, and knees. The flexural areas (flexural eczema) are often chronically lichenified. As they are evidently due to metabolic disturbance (split-protein absorption), one must regard them as metabolic eczema, and I have seen several cases persist into early adult life, some cases developing preëruptional asthma and some developing into Duhring's disease (dermatitis herpetiformis), which falls in with sensitization.

In considering childhood eczema, other conditions frequently and wrongly attributed to eczema must be excluded. Scabies, pediculosis capitis or corporis, and impetigo contagiosa are often followed by an eczematoid dermatitis due to irritation and pyogenic invasion.

Seborrheic dermatitis is not infrequent in childhood, and the greasy, scaly, dull red, itching patches of the face, neck, upper chest and back, and larger flexures (often lichenified) should be differentiated from eczema.

Chronic symmetrical impetigo, which often occurs as persistently red, slightly oozing patches of dermatitis, with hard, yellowish, tenacious crusts, distributed symmetrically over the face and extremities, especially the upper extremities, should be excluded, though it is frequently regarded as eczema.

Acute or chronic dermatitis venenata, which is an inflammation of the skin from plants or chemicals of some type, often presents a typically eczematoid appearance which may cause an erroneous diagnosis of eczema. Eruptions of this kind are frequent and a diagnosis is made by considering singly the numerous substances which come in contact with the skin.

It is surprising how infrequently a diagnosis of true eczema in childhood is made when the numerous dermatoses which present an eczematous character are excluded.

Eczema in Adults

Fully seventy-five per cent of the so-called eczemas of adults are traceable to some external irritant. The term "eczema" is therefore not appropriate in this percentage of cases, and should give way to the term "dermatitis," for the simple reason that the word dermatitis invites search for a cause, while the term eczema induces a mental lethargy defeating investigation. The word eczema is Greek for "an eruption or boiling over," and remains Greek in its meaninglessness. At present, broadly speaking, one may consider eczema as due to external and internal factors. The majority of cases are due to external factors, and should be classed with the venenate dermatoses. The minority are due to internal factors, such as sensitization or allergic phenomena, and to this group only is the term eczema rightfully applied.

Clinically, eczema presents single or multiple patches or diffuse areas of redness and scaliness (rarely universal), with acute or chronic papulovesicles in all stages of evolution. The patches are persistent or recurrent, symmetrical or asymmetrical.

The principal factor in eczema is lowered local resistance of the skin in the affected areas. Clinical experience today is demonstrating that this state may be brought about by anaphylaxis, sensitization, or allergy, which primarily appears to be an individual idiosyncrasy. Internal noxæ or irritant substances derived from proteins or split proteins in food metabolism, or from focal infection, are the most important considerations in lowered local skin resistance. The internal or sensitization eczemas are the only true eczemas.

The majority of cases popularly termed eczema by the medical profession at large are due to external noxæ or irritants, and should, therefore, be classed with the venenate dermatoses, a great group expanding constantly

with new causative discoveries. Here the areas of dermatitis clinically resemble those of internal causation. Apparently, in some cases both internal and external substances lower the skin resistance and induce dermatitis, but this is doubtful. External irritant substances capable of producing eczematoid eruptions are too numerous to name, but are encountered in plants, chemicals, dyes, and drugs. Occupational dermatoses (the so-called trade eczemas) come within this group.

Eczema is a condition of allergy, and is never catarrhal, neurotic, or parasitic. In its diagnosis seborrheic, pyogenic, and phytogenic or fungus dermatoses must be carefully excluded.

ABSTRACT OF DISCUSSION

J. Claxton Gittings, M.D. (Philadelphia, Pa.): Years ago, Czerny described the condition in infants and children known as the exudative diathesis. At present, this term is applied to those who have a limited capacity for the proper digestion and metabolism of food, a tendency to infections of the mucous membranes and enlargements of lymphatic nodes, and a delicate skin which easily takes on the processes of true eczema as well as those of dermatitis due to external irritants. Czerny attributed the condition chiefly to a disturbance in the intermediary metabolism of fat. Latter-day investigations inculpate the proteins, rather, so far as true eczema is concerned.

Proteins are indispensable in the diet of growing children, while fat can be excluded to a large extent for some time without jeopardizing life itself. We have no knowledge of the basic cause for the intolerance in these children. As a matter of clinical experience, their lesions usually develop in the first months of life, when milk is their chief food. Protein sensitization tests are not always conclusive, since the skin will react as strongly to the traumatism of the knife and control solution as it will to the protein itself. The eruption may be controlled in some cases by local application, general hygiene, and the avoidance of local irritation, without radical change in diet. In others, reduction of fat alone will be necessary or the substitution of vegetable fats. Still others require the substitution of starch for some of the proteins. In many cases, none of these measures is productive of a real cure in the sense of a complete disappearance of all lesions, and in many of the cured cases recurrences are frequent. In most cases, the disease is limited to the period when milk is the chief food, and tends to disappear with the mixed diet of the second year.

So long as we considered it necessary to feed only milk until the baby was a year old, infantile eczema was the curse of many a family. Now that we begin mixed feeding as early as five or six months, my personal experience has been that severe cases of eczema are more rare.

Superheated milk loses some of its irritating qualities, so far as eczema is concerned, and the dried milks are better borne than raw cow's milk. Prolonged boiling of the latter often seems to be effective. An antiscorbutic is essential when boiled milk is fed, and eminently desirable, if not essential, when many of the dried foods are used. Unfortunately, orange and lemon juice are not always tolerated by these babies, and mashed green vegetables and tomato juice are apt to cause digestive disturbances, so that the problems of adequate feeding may be difficult.

It is of the utmost importance that the babies be weighed regularly during any dietary experiments, so as to guard against loss of weight. Stationary weight can be tolerated safely for two or three weeks, but a steady loss of weight is dangerous. Better the red face of eczema than the pallor of death. The daily allowance of at least 2 grams of protein per kilo of body weight, or 1 oz. of milk per pound of body weight, cannot be disregarded safely for any length of time. If the allowance of milk is to be reduced one half or more, then some care must be taken to use cod-liver oil, and if possible, those foods which contain large amounts of calcium, such as beet tops, dried beans, cauliflower, lentils, or celery. These articles cannot be fed to babies, but they often can be cooked in soups and strained out, so as to make their extracts available. We may also try the addition of pure dried casein in small amounts to the diet, and thus increase both the calcium and protein intake.

ETIOLOGY OF ECZEMA

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Among the diseases of the skin are some whose causes are definitely settled, where the last word about their etiology has apparently been written. Many others, unfortunately, are guarding well the secrets of their being. Eczema, almost alone, presents the anomaly of being at once a disease whose etiology may be either comparatively easy or unusually difficult to establish.

This disease, if indeed it be but one disease, is a cutaneous reaction exhibiting a number of characteristics which enable us to place it in the classification of eczema. Formerly embracing conditions which have since been split off, it still presents a very large, unwieldy mass, doubtless capable of further subdivision.

Popular is the belief, even among members of our profession, and widespread the conception that eczema is wholly an internally produced disease. Consequently, the indolent or baffled physician finds a ready acceptance of his explanation of the outbreak on this score. This view, however, is but partially correct. While it must be granted that the underlying factor in a vast majority of these cases is indeed some derangement of functional activity elsewhere, the matter cannot be routinely ascribed to any one organ's failure or metabolic defect. With an imperfect organism as the background for the process, it would seem that there is further necessary some exciting agency to cause the skin to become involved and show evidence of its contribution to the deeper pathology. That the skin is an organ which is prone to exhibit the

remote effects of internal affections is noted in many conditions. In some of these, the dermatologic diagnosis depends for the most part on the recognition of the disease elsewhere, as, for example, in leukemia. In eczema the reverse process is more apt to take place, and the inner cause to be sought from the outer lesion.

In the past, a vast number of systemic causes for the outbreak were chronicled, practically all general conditions having been included at one time or another. Outstanding among these in supposed blameworthiness were gout, chronic rheumatism, lithemia, defective kidney elimination, and alimentary defects of all kinds. Diabetes, reflex nervous causes, bacteria, and genito-urinary conditions were frequently held at fault. Later, various metabolic errors, endocrine dysfunction, focal infection, and protein sensitization were prominently mentioned. Widely diverse as these conditions would appear to be, it is perfectly logical to believe that they acted, each in its own way, to prepare the soil, to depress the threshold, and to undermine the individual's resistance to some outside influence.

Given such preparation, the determination of the location of the outbreak would seem to be largely influenced by these external factors. Numerous instances, commonly observed in practice might be mentioned. The hands, parts which are so especially apt to meet external influences—in spite of the defensive structure of the palm—exhibit the outbreak from contact with chemical, thermal, mechanical, and other irritants. The laundress, paperhanger, painter, cement worker, photographer—all are frequent sufferers from the disease in this region. Where such clear evidence of external excitation is present, should we not call it dermatitis instead of eczema? But again, is there not always a local reason, whether we realize its importance or not? The baby's skin breaks out where it is most exposed, vascular, and delicate, or where there is local external cause. The flexures are moist, vascular, thin skinned, and subject to friction. Irritating material collects in them, and is not readily removable. The lower legs are prone to minor traumata, and exposed to weather influences. The feet are encased frequently in ill-fitting, usually overheating shoes. Both feet and legs depend on a slow-moving current of blood, with a consequent tendency to stasis and congestion. The various body orifices are subject to the variations in the materials that pass through them. The general skin surface suffers from unsuitable or ill-fitting clothing, and from soap or the lack of it.

Every one does not exhibit eczema. The subjects are those who by reason of the structure of their skin, other skin disease, or systemic causes are unfitted to withstand the additional load of the provocative local irritation.

In making a distinction between eczema and dermatitis of external origin, it has been customary to include in the latter group only those cases, usually acute, which are clearly proved to result from outside influences, and which disappear in a comparatively short time on the withdrawal of the excitant. If the eruption becomes more or less fixed or spreads beyond the region originally exposed to irritation, it should be returned to the older classification.

Heredity may play a part in the production of eczema in several members of a family, not so much by the transmissibility of the disease itself as by the inherited sensitive type of skin or the habits or diet common to that family. The lack of contagiousness, and the originally sterile vesicles have foiled the case of those, mainly foreign observers, who held it to be of bacterial origin. Bockhart and others thought that eczema was produced by the toxins of bacteria normally present in the follicles of the skin, which organisms took on activity as a result of some internal or external cause which improved their nutrition. The fact that in the earliest stages of dermatitis only the follicles are affected has since been commented on, but with a different interpretation. It has been thought that these depressions afforded refuge for minute quantities of chemical or mechanical irritants, as well as being vulnerable points where the continuity of the horny layer was broken.

That persons suffering from eczema are more sensitive to irritants on intact portions of their skin than are normal individuals was recently again confirmed, this time by Bloch, in a series of 1,200 cases and controls. Thirty-five per cent of the subjects with eczema reacted to local applications of irritating chemicals, while but five per cent of the apparently normal individuals showed a similar effect. These latter were considered potential subjects for the disease.

Various skin diseases tend to lead to the development of eczema. Prominent among these are ichthyosis, hyperidrosis and a long-standing seborrhea. It is frequently a difficult matter to arrive at the underlying cause when it is a condition producing a gradual and insidious decline in bodily resistance; but when an acute systemic disease immediately precedes an eczema, it is more readily appreciated as the remote factor. The circumstances of long exposure to some possible irritant without ill effects until some acute illness depressed the individual's capacity to resist, are frequently encountered. As a case in point, a painter who enjoyed twenty years of

skin immunity to the materials of his trade, after a severe attack of influenza was no longer able to handle certain articles without dermatitis resulting.

All the elements in the blood stream are brought into the vascular parts of the skin, and exert their influence for good or bad. When the latter is the case, the skin may become sensitized and under the added stimulus of external irritation an eczematous outbreak is provoked. The precipitating causes are legion, and comprise practically everything which forms a contact with the integument. But, definitely, what makes the skin irritable, vulnerable to influences it should normally disregard?

First in importance is some disturbance causing a deviation in the normal metabolism of one or more of the elements of ingested food. There is a fault somewhere in the chemistry involved in the various changes from intake to elimination. This would include unusual quantities of normal ingredients or retention of normally present substances for abnormal periods, as well as foreign material.

Again, the endocrines may play their part, possibly by their own errors of production, possibly by being interfered with and neutralized by the results of faulty metabolism. From time to time we are afforded more or less convincing examples of eczema relieved by various glandular extracts, notably thyroid and epinephrin. It has been thought that deficiency in this respect has increased dermic sensitivity.

Less definite than the foregoing is anaphylaxis. This type of eczema occurs as a part of the picture which includes hay fever, asthma, and urticaria.

That the nervous system plays a most important part in all of the foregoing must be admitted. Anything acting internally to irritate the superficial fibrils makes the skin more susceptible to external impressions, and renders reflex changes in the vasomotor system likely. The symmetry of many eczemas can often be explained only by similar nervous influences. Becker recently reported a number of instances of localized eczema as a result of nerve injury and disease.

Farthest in the background but probably most important as the underlying source, lie various disturbances of the gastro-intestinal tract and diet.

Harris, in the posthumous paper which Stokes so creditably rescued and published, implicated histamin, a product of pancreatic digestion, as a possible internal cause of eczema. This substance is absorbed by the ileum in constipated individuals, and by its antagonism to epinephrin at all points, materially reduces the normal action of the latter.

It is most probable, however, that this widespread affection is produced by any one of several systemic defects. This factor sensitizing the skin through the vascular or nervous mechanisms, on the application of a suitable exciting, usually external, stimulant, brings forth the cutaneous reaction we so commonly observe.

This is a subject which will not permit of dogmatism. Search for the cause oftentimes requires keen insight, laboratory aid, and the coöperation of the internist.

1927 Spruce Street.

ABSTRACT OF DISCUSSION

FRED WEIDMAN, M.D. (Philadelphia, Pa.): Dermatologists have tended to stress the clinical facts too much—to wrap, perhaps, the individual circumstances of eczema as they have seen it clinically, and try to force those facts together into one concept as to the etiology of the disease. The diverse ideas that all eczemas are of external causation, and that all are of internal causation have come about as the result of viewpoints that are too strictly clinical. Looked at from the pathologic standpoint, such a thing cannot possibly be, in the nature of things biologic. The causes of inflammation, in general, are diverse. Nephritis, for example, may be the result of direct application of cold, caused by a man lying out in the gutter overnight, with his loins up against a cold stone. The acute interstitial nephritis which follows would be a nephritis of external causation. Examples of internal causation would include scarlatina, diphtheria, gout, etc. Probably the majority of cases of nephritis are the effects of endogenously produced substances.

The same principles must obtain in respect to the skin, and we must concede that an inflammation of the skin may be produced just as readily by agents applied internally as externally. Recognizing that the skin is but a part of the whole economy, and subject to the laws of general biology, we can no longer attempt to explain all cases of eczema wholly on an external or an internal basis. Of course, in the long run, everything will depend upon the scope and limitations of one's concept of eczema.

It seems to me a mistake to discard the term *eczema* for *dermatitis,* and to use *dermatitis* only in those conditions produced by locally applied agents. In this case, of course, eczema would be of external origin only. But *dermatitis* should apply also to lesions of internal causation, for it is contrary to basic pathological principles to restrict the suffix *itis* to a state which is induced by some particular class of irritants. On the other hand, so long as the designation *eczema* is retained, and the definition of it depends, as it does today, upon diverse complexes of subjective symptoms, anatomical lesions, and clinical course, it must be possible for a variety of irritant agents to produce these complexes.

For this reason, I coincide with Dr. Corson in the view that in some cases of eczema the cause is external, in other cases internal, and in others a combination of external and internal agents. We should not be dogmatic, but apply logic to the situation.

THE GENERAL MANAGEMENT AND TREATMENT OF ECZEMA

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At the present date, we have no specific treatment to offer for any form or variety of eczema. Instead, we have at our disposal recognized procedures, which, when combined with the use of the therapeutic and physical agents, relieve subjectively the symptoms and objectively the eruption which may be present. This disease, with its many manifestations, requires the treatment of the patient rather than the disease if we wish a successful result. For the present, then, we may look upon eczema as a symptom manifested by the patient, the cause and treatment of which requires an individual case study.

After the diagnosis is established, there are two methods of treatment: the one, a constitutional treatment; the other, a local therapy, both of which must be conducted according to the common-sense ideas of medicine. Personally, I feel the management of any case of eczema is incomplete and lacking if the use of the principles of internal medicine is omitted. Again, a complete physical examination should be required in all acute or chronic cases, in order that the medical status of the patient be understood. Environment and occupation should be studied with a view to discovering external causative factors. Every attempt should be made to correlate any existing pathology with the eruption present. All cases should be hospitalized, utilizing coöperative medicine for the patient's benefit. Theoretically this is ideal, but practically it is impossible, because of expense and the lack of coöperation between physician, patient, and hospital. It will not be possible to obtain curative results unless these factors are so managed.

Drugs given internally in eczema have been more or less routinely handed down by tradition rather than by necessity, and should be used only as the indication demands. Elimination is still considered good practice, and is necessary in most cases. Alkalies are now given by necessity rather than routine. Absolute rest, which means rest in bed, is more strongly advocated because of its importance in allaying nervous irritation. Protection of the nervous system is most important because it influences relief from the most annoying symptom—pruritus. To accomplish this, a sedative (especially bromids given intravenously or as frequently repeated small doses by mouth during the day) should be used. Other sedatives are selective. Opiates are advised against. Sufficient and restful sleep is desired, and the environment should be so regulated as to make this possible. Arsenic has no specific action, and is used only when definitely indicated.

The diet in eczema varies according to the physician in charge. It should be well balanced at all times, to build up the nutrition of the patient. In acute cases, rice, water, salt, and butter have their advocates. Others, less drastic, advise a light supportive diet, such as milk, buttermilk, cereals, and potatoes, which is followed in subacute stages by a strict vegetable or a purin-free diet; or again, vegetables with moderate amounts of meat, fish, and eggs, and sweets. Others never restrict the diet. We always must remember the possibility of food sensitization, which can be guided and controlled by cutaneous tests. The irritant foods must then be strictly eliminated from the diet. The relationship of sugar tolerance and eczema should always be borne in mind.

Local therapy is of essential importance, indispensable, and must be used in every case, as it alone may suffice to give the desired result. It demands that certain principles be carried out. Local applications should always tend to reverse the pathology, protect the parts, and relieve the subjective symptoms. The affected area must be kept clean from the products of the disease, and this is best accomplished by oily or unctuous applications, supplemented at the proper time by soap and water, which most physicians restrict until the chronic stages.

The local treatment depends upon the type and stage of the disease present. In the acute erythematous or vesicular forms, local applications such as calamin lotion, or mild compresses of boric acid and resorcin during the day, should be followed at night by a soothing ointment or paste such as Lassar's. The papular stage can be so treated, but ointments containing soothing or stimulating additions can be used as the first application. Here, as in the vesicular types, crude coal tar, 4 to 6 per cent, has an important use.

In pustular cases, it is well to clear up all secondary infection before proceeding to treat the disease as it is then presented. Occasionally, stimulation is needed in early obstinate cases. Many other local applications, too numerous to mention, are advocated, and are still being used because of the lack of something better. The subacute and chronic stages demand stimulation. For this, the tars, sulphur, resorcin, and salicylic acid are the best drugs at our disposal.

Purposely has the value of the roentgen ray and ultraviolet therapy been omitted until now, as these deserve especial comment. When one

considers the many treatments for eczema, the roentgen ray is the best remedy we have, because of its use as an antipruritic and resolvent agent. Too much must not be expected from it, and it should be always utilized together with all possible attempts to eliminate the causative factors. This point is absolutely essential. Together with radiation, the patient should receive the benefit of regular dermatological treatment administered intelligently, and care should be taken not to use strong or irritating drugs when it is employed. In acute cases it should be used on localized areas in fractional unfiltered dosages, and when generalized, in a similar manner, exposing only one part of the body daily. Its use in the acute stages is not advocated by all dermatologists. In subacute and chronic cases, it can be used more freely, and in stronger exposures. The roentgen ray cannot be omitted in the treatment of eczema. Radium, seldom used, has an action similar to the roentgen ray. The ultraviolet ray allays pruritus and promotes healing, but its use should be selective.

Infantile eczema commands especial attention because of its frequency in general practice. It offers the same problems as adult eczema, and its treatment varies according to the type of disease or complication that may be present. Here, as in the adult form, protection from irritation is the keynote to treatment. No outlined treatment can be given unless it is flexible enough to meet all general requirements. The child should be kept indoors with good ventilation and protected from draughts. It is advisable not to dress too warmly or use irritating clothing upon the skin. All soiled clothing should be changed immediately. Excessive clothing should be avoided. For pruritus it is best not to use the patented splints for the arms, but preferably strong safety pins to fasten the parts to the diapers or clothing. No water or soap is allowed on the irritated skin, and with other areas unaffected, the skin should be bathed with olive oil, vaseline, or superfatted cold-cream soap.

Internal medication is rarely prescribed unless definitely indicated. It is surprising how many babies with this disease are underfed. Diet affects the nutrition and the amount of fluid in the tissue, and should not be changed on the first visit. Food is reduced only when the baby is definitely overfed, and often a diet which at first irritates, causes a marked improvement if persisted in. In the breast-fed, where the diet is uniform, food sensitization, as advocated by numerous authors, must be borne in mind, and offending foods eliminated only when revealed by positive cutaneous tests. The diet in the non-breast-fed is carried out along the principles advocated in adult eczema. Until we understand more about body metabolism and its relation to the chemistry of foods and the needs of body assimilation, we cannot place absolute reliance on dietetic factors in eczema.

Locally, the treatment as outlined in adult eczema is followed. Crude coal tar, varying from 4 to 10 per cent, finds its best use in infantile eczema. This application, together with other measures advocated, usually gives most satisfactory results. The enthusiasm shown from its use is not exaggerated, and it constitutes the best therapeutic agent so far given us for infantile eczema. When the above treatment fails to reveal results within a few weeks, White advocates a stool examination and diet correction. It is my practice to do a stool examination as a routine measure.

Infantile eczema, like adult eczema, for the present is treated only in a symptomatic manner, and its cure can be accomplished only when its cause is found.

ABSTRACT OF DISCUSSION

OF THE SYMPOSIUM ON ECZEMA

W. E. DELANEY, M.D. (Williamsport, Pa.): Nothing was mentioned in regard to dentition in infantile eczema, and I should like to ask if this is a cause, and whether there is any special treatment for this class of cases.

DR. CRAWFORD (in closing): It is my belief that there is no such thing as reflex irritation, but that reflex congestion of a part can occur, as in infantile dentition, and this congestion can lower resistance, permitting irritation the more readily.

We should abandon the dual viewpoint that eczema is due to both internal and external causes. Undoubtedly, most cases of so-called eczema are due to external influences which lower skin resistance, and it is to these cases that the use of the title *dermatitis venenata* with a qualifying clause is the more applicable. On failing to discover an external cause, and on finding or suspecting an internal origin, the term *eczema,* which means simply an unexplainable eruption with certain features, is applicable, and will be until the biologic factors are solved.

DR. CORSON (in closing): I have swung both ways on this question of internal and external causation. At one time I felt as does Dr. Crawford, that we should distinguish quite clearly between the two, but one encounters certain cases where it is impossible to ignore either or both factors. On that account I still hold to the combination of causes contributing to the outbreak.

I feel that the eczema which sometimes accompanies dentition is secondary to digestive disturbances prone to occur at that time, either because the proteins are not properly split up, or because of some other condition which prevails at the time which is responsible for the outbreak.

Symposium on the Thymus Gland*

THE FUNCTION OF THE THYMUS GLAND†

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One statement alone may be made without fear of contradiction in regard to the function of the thymus gland; namely, that up to the present time the experimentalists have been unable to bring to light, unchallenged, any specific rôle which may be ascribed to this organ. Indeed, it is significant that many writers, endocrinologists included, are frankly doubting whether it may be classed as an endocrine gland. Such is the case in spite of the fact that much research on the thymus has been done, and many important bodily functions have been attributed to it.

The clinician, then, can expect to receive little aid at present from the physiologist in the solution of his problems involving the thymus. Still, the former may be comforted, if he wishes, by the thought that nature's laboratory often surpasses the genius of man in bringing about the more subtle pathologic changes. Nowhere is this statement truer than in connection with the endocrine organs.

In the time available here, it will be possible to outline only the general trend which investigation on the thymus has taken, and to attempt to present the conclusions warranted by the balance of the experimental evidence. It is to be doubted whether more contradictory results exist in any field of physiological research.

Extirpation

Experiments designed to reveal the effects produced by thymectomy have been performed in animals of different species. Park and McClure have subjected the literature on this subject to a masterfully critical review. They extirpated the thymus of young dogs, and state that they were uncertain that it caused any alteration in the animal. Contrary to the previous claims of other investigators, they found that ablation of the thymus produced no detectable alterations in the hair, teeth, contour of the body, muscular development, strength, activity, or intelligence of the experimental animal, and probably did not influence growth or development, or result in any alteration in the organs of internal secretion. They were unable to discover any rickets or disease of the skeleton as a consequence of the procedure of thymectomy, and were convinced that the thymus was not essential to life in the dog. The slight changes, such as retarded or diminished growth of the skeleton, and therefore of the animal as a whole, or changes in the thyroid in the nature of a hyperplasia, hypertrophy of the suprarenal, or retarded development of the testes, Park and McClure believed due to other causes than the deprivation of the thymus. It is their opinion that the results ascribed by many or perhaps all investigators to deprivation of the thymus had nothing to do with loss of thymus function, but were a consequence of chance variations, confinement, or other unfavorable environmental influences, unsuitable food, or disease on animals whose vitality already had been lowered by the shock of a severe operation.

The well-controlled thymectomies of Pappenheimer on young rats resulted in the discovery of no constant pathologic changes. The organs of internal secretion were unaffected.

Hammar could detect no effect resulting from thymectomy in frogs, although others had reported positive findings to the contrary.

A review of the thymectomy experiments in a variety of animals would appear to favor the conclusion that they had not been followed by any constantly demonstrable, specific, physiologic effects.

An isolated observation made by Soli following thymus extirpation in pullets is of interest in connection with the disturbances in bone formation alleged to result from this procedure. This investigator reported that following thymectomy, the pullets, at certain intervals, laid eggs without shells, or with extremely thin shells, as a result of a disturbed calcium metabolism. Further experiments are needed to confirm these findings.

Feeding Thymus

Gudernatsch found that feeding thymus to tadpoles produced an increase in their rate of growth (size), but delayed their development (metamorphosis). Although this work has received some confirmation, the reported contrary results make its unqualified acceptance impossible at this time.

Uhlenhuth concluded that this effect was due to malnutrition or the lack of some substance necessary for metamorphosis, rather than the presence of a specific inhibiting agent, since it occurred only if no normal food was added.

Injection of Thymus Extracts

Swale Vincent and others found that the intravenous injection of extracts of the thymus

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does not reveal any specific action; the depressor effect is that occurring after the injection of a great number of organ extracts.

Effect of Castration on Thymus

It is held by some authors that the maximum weight of the thymus is attained at about the age of puberty, after which progressive involution occurs. It might be anticipated, therefore, that some relationship exists between the thymus and the development of the sexual organs, and indeed experiments directed along this line, on the whole, seem to justify such a hypothesis.

It is commonly believed by workers in abbatoirs that the thymus is persistent for a longer period, and is larger in castrated than in uncastrated animals. An investigation of this belief by Henderson led him to conclude that castration in cattle causes a persistent growth and a retarded atrophy of the thymus, with a similar effect in sexually immature guinea pigs and rabbits. Calzolari had previously described this result in rabbits. Henderson further found that the atrophy of the thymus is greatly accelerated when bulls have been used for breeding, and heifers have been pregnant for several months. Paton, as a result of experiments upon sexually immature guinea pigs, advanced the hypothesis that there exists a reciprocal relationship between the thymus and the testes, each checking the growth of the other. The existing evidence on the effect of thymectomy upon the development of the sexual organs is, however, very conflicting. Although the evidence indicating delayed thymus involution after castration in the sexually immature animals seems worthy of consideration, nevertheless, many other bodily changes have been described as following early castration.

That no data pointing to a specific physiologic function of the thymus have come out of the experimental laboratory must inevitably be the conclusion drawn from this necessarily brief and incomplete review. For those who still cherish hopes of revealing a thymus function, it may not be out of place here to express the opinion that, in view of the experimental difficulties which the problem presents, one might hope for some fruitful information from a collaborated effort of the clinician and the laboratory worker upon patients in whom thymus abnormalities, such as persistent growth, delayed atrophy, or perhaps premature atrophy, have occurred, with all due appreciation of the hazards of deductions of cause and effect in such work.

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THYMUS DEATH IN EARLY LIFE

Its Clinical Differentiation

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In 1830, Kopp, in Germany, first applied the term thymic asthma to certain cases of dyspnea associated with enlargement of the thymus gland. Thirty years later, we find Charles West, in England, discussing at some length the important subject of sudden death in childhood, and yet able to present under this category only one case of definite thymus enlargement.

In 1872, J. Lewis Smith, writing in New York, was inclined to doubt that enlargement of the thymus played any important rôle in the cases of suffocative and often fatal dyspnea, which he classified as forms of internal convulsions, laryngismus stridulous, spasm of the glottis, etc.

The description of these cases leaves no doubt that many of them were of the same nature as those we now consider thymus deaths, but even at present, there is no absolute agreement as to etiology or even diagnostic criteria—nor will there be until much more has been learned of the physiology of the thymus gland and its relation to other organs and structures.

In even a partial study of the voluminous literature concerning the death of individuals who show definite enlargement of the thymus at autopsy, two main classes of cases can be recognized: (1) those who have died suddenly and unexpectedly, without notable symptoms having preceded the fatal attack; and (2) cases in which death has been preceded by evidence of respiratory distress.

The latter type of case is generally known as thymus asthma, is not always fatal, and can usually be recognized in time for effective treatment. If the unexpected deaths are to be prevented, we must learn more of the basic conditions which underlie them. At present, the belief is general that they belong to the category of so-called status lymphaticus. All modern textbooks on pediatrics, so far as I know, recognize this as a definite pathologico-clinical entity, consisting of hyperplasia of the lymphoid tissues throughout the body, including those of the thymus. Involvement of the mesenteric and bronchial nodes and of the intestinal lymphatics is especially pronounced. The nodes in the neck, pharynx, and base of the tongue are also affected, as well as the tonsils, and the spleen may be

slightly enlarged. Very often the child will be fat but flabby, and physically, perhaps mentally, somewhat sluggish. The type of "angel child" described by Symmers is not, as a rule, recognized by pediatricians as definitely related to status lymphaticus.

On studying this syndrome of status lymphaticus, we find that minor degrees of it are extremely common. The picture of enlarged cervical and pharyngeal lymph nodes and tonsils, plentiful panniculus, and flabby muscles is seen every day and many times a day. It is believed that a marked preponderance of lymphocytes among the white cells points to status lymphaticus, and yet the percentage of lymphocytes is uniformly high in infancy and early childhood. Enlargement of lymphoid tissue inside the body can rarely be determined by clinical methods, and percussion of the thymus will not always clearly define an existing enlargement. Only by use of the x-rays can evidence be secured which is even approximately accurate, and instances are on record of enlargement of the thymus without other marked evidence of status lymphaticus.

In the interpretation of an apparent enlargement of the thymus, also, considerable latitude must be allowed. For example, let us examine the tables of Friedleben, Hammar, and Bovaird and Nicoll:

AVERAGE WEIGHT OF THE THYMUS

Friedleben		*Hammar*		*Bovaird and Nicoll*	
At birth	14.3 grams	At birth	13.26 grams	At birth	7.7 grams
1 to 9 months	20.7 "	1 to 5 years	22.98 "	1 to 11 months	6. to 6.1 grams
9 to 24 "	27.3 "	6 to 10 "	26.10 "	12 to 24 "	5.67 grams
2 to 14 years	27.0 "	11 to 15 "	37.52 "	2 to 5 years	6.9 to 6.5 grams
15 to 25 "	22.1 "	16 to 20 "	25.58 "		
		21 to 25 "	24.73 "		

Friedleben's observations were made on the glands from 182 healthy, well-nourished individuals who had died suddenly. Bovaird and Nicoll point out that many of these might be expected to have had hyperplastic thymus glands.

Hammar's figures were purposely obtained from well-nourished individuals who had died by accident or after a very acute illness, occurring while they were in a state of perfect health.

The figures of Bovaird and Nicoll were obtained at routine autopsies in children dying from all manner of diseases. Hammar and others have pointed out that emaciation and various infections will have a profound effect upon the size of thymus. Richter, in fact, believes that the enlarged thymus found in most cases of sudden death may be normal, and that the thymus found after death from various diseases is small because of the effect of those diseases upon it.

It used to be believed that the thymus began its involution at or shortly after birth, disappearing in adult life. Later, it was supposed that the gland continued to grow until about the second year of life, and that involution then took place. Hammar's figures offer evidence that growth actually persists to puberty. Furthermore, Hammar believes that the thymus as a rule remains functionally active throughout life.

With a variation of almost 100 per cent between the figures of Bovaird and Nicoll and those of Hammar and Friedleben, it is difficult to be at all didactic when one speaks of minor degrees of enlargement. In general, it would be safer to accept the figures of Hammar than those of Bovaird and Nicoll. The shape of the gland also is of importance, as will be mentioned later.

Under the heading of status lymphaticus, many authors include also cases of thymus asthma, provided they show general lymphoid hyperplasia, in spite of the fact that the manner of death differs materially—the typical death from thymus asthma being of the respiratory type and the typical sudden death in status lymphaticus being cardiac. Koplik describes two such sudden deaths which occurred under his observation: While the infant was being examined, suddenly he threw back his head with a noiseless or sucking inspiration, the eyes turned upward and sidewise, the pupils dilated, cyanosis of the face and tongue appeared as the latter became swollen and caught in the jaws, and there was a convulsive contracture of the body backward. After several inefficient noiseless shallow inspiratory movements, the body relaxed, the face became ashy pale, and the infant was dead within one or two minutes. The heart ceased to beat at the beginning of the attack.

The literature contains reference to sudden death occurring under anesthesia—early or late—or after slight trauma, such as a hypodermic injection or pleural puncture. Occasionally, an infant will be found dead in bed, under conditions where actual suffocation or overlying could be excluded.

In all such instances, if the thymus is found to be enlarged, even with a liberal interpretation of what constitutes enlargement, the tendency at present is to label them thymus deaths. This,

of course, fails to explain similar types of death which occur in the absence of enlargement of the thymus.

Hammar, who has devoted more time to the study of the thymus than any investigator—certainly since Friedleben—examined with great thoroughness, the thymus glands from 16 children from 3 weeks to 15 months of age, who had died suddenly. Two of these were typical instances of thymus death. In no respect did the structure of the thymus differ from that found in healthy children. Although histologic study does not always give an index to disordered function, yet at the hands of so critical an observer as Hammar, some minute changes in cell structure or arrangement might be expected, were the thymus chiefly at fault.

Hammar's belief is unequivocally expressed: "A clear distinction must be made between thymus asthma due to the effect of pressure and death caused by this, and so-called 'thymus death.' There is nothing to indicate that thymus death is primarily due to an abnormal condition of the thymus."

Thymus Asthma

The attacks of this disease may be mild or severe, intermittent or continuous, and are seen most frequently between the ages of 6 months to 2 years. The mildest forms will consist of attacks of slight inspiratory dyspnea, lasting only a few minutes. These are apt to recur and to grow more severe. At any time, a fatal suffocative dyspnea may supervene. In others, the mild inspiratory stridor is more or less continuous. Fits of crying may precipitate a severe attack which, in any event, is apt to follow sooner or later. In addition to inspiratory stridor, we may find some expiratory wheezing, and even a few dry râles, of the asthmatic type.

Severe forms are rarely primary. Careful questioning usually shows that some of the symptoms described above have preceded. The attack may be fulminating in its severity, ending fatally within a few hours, or it may pass off, to be succeeded by more or less stridor until another paroxysm occurs. In other cases, there may be complete recovery from one attack, although recurrences sooner or later are the rule. When an attack of thymus asthma occurs in a child who is already suffering from a respiratory disease such as bronchopneumonia, a fatal issue is almost inevitable unless treatment is started at once.

The chief characteristics of the severe attack are inspiratory dyspnea, rapid breathing, and cyanosis. The suprasternal notch and epigastrium will be pulled in with each inspiration almost as markedly as occurs in laryngeal diphtheria. It is said to be possible at times to palpate the thymus in the suprasternal notch as the gland is forced up during expiration. If pressure on the gland increases the dyspnea, it has been construed as additional evidence of mechanical pressure. Also hyperextension of the head, which narrows the space between the upper sternum and spine, may increase the dyspnea. As the child tires with the tremendous effort at breathing, the pulse becomes weak, pallor modifies cyanosis, and death occurs in coma as the circulation fails. In other cases, fatal convulsions with hyperpyrexia interrupt the progressive dyspnea. Much more rarely, the convulsive seizure may be mild, and with its cessation the attack also ceases. In still other types, the dyspnea may be severe, but short and spasmodic in character as though the glottis were involved. With apnea comes unconsciousness. Recovery or death may follow. These attacks resemble somewhat the breath-holding spells which, Freeman considers, may at times be of the nature of "thymus asthma."

A safe rule, therefore, is to suspect the presence of enlarged thymus in any infant or young child who exhibits any evidence of respiratory dysfunction, particularly if it takes the form of inspiratory obstruction, no matter how slight.

It is difficult to escape the conclusion that the mere presence of the enlarged thymus has some mechanical effect. On the other hand, rarely can there be narrowing of the trachea sufficient to account entirely for the dyspnea. The structure of the trachea tends to protect it. Actual marked narrowing of the lumen of the trachea has been proved at autopsy, but these instances have been few. It is probable that these spasmodic attacks leading to apnea are the cause of death in some cases which succumb during anesthesia, since fright and anger are notoriously liable to precipitate them.

Operative interference has relieved dyspnea almost instantly. This furnishes clear proof of the mechanical factors which may be involved, but it does not necessarily prove that the trachea has been seriously compressed, and many fatal but typical cases show no evidence whatever of tracheal compression.

We may conclude, therefore, that the dyspnea may depend upon tracheal stenosis, but that other structures also may be involved or that some other mechanism than mere pressure exists for narrowing the lumen of the respiratory tube.

Diagnosis

Differential diagnosis must exclude:

(1) Congenital stridor, inspiratory in type, appearing shortly after birth, continuous, rarely severe, and rarely causing distress or even slight

cyanosis. It seems to be due to functional defects in the epiglottis and the aryepiglottic ligaments.

(2) Congenital atelectasis, which, if extensive, simulates mediastinal pressure quite closely, with labored breathing, cyanosis, and recession of supra- and infrasternal regions. The cyanosis improves with crying—a feature which distinguishes it from thymus pressure—and examination may show areas of lung which are not functioning. A radiogram or fluoroscopy may be necessary for diagnosis. If these are not conclusive, therapeutic application of the x-ray or radium is indicated.

(3) Diseases of the larynx, such as croup or diphtheria. In both, there are changes in voice, a croupy cough with the history of acute onset, and usually evidences of toxemia. Laryngoscopic examination and cultures will aid in diagnosis.

(4) Enlarged bronchial nodes, which may simulate enlarged thymus. The dyspnea, however, is apt to be expiratory in type, and bronchitis is a frequent accompaniment. X-ray differentiation may be difficult, although the nodes are apt to show shadows extending out along with the main bronchial stems. In case of doubt, x-ray or radium therapeusis would of course be indicated. They probably have a similar effect upon the nodes as upon the thymus, but this is not so promptly manifested nor so pronounced.

(5) Hypertrophied adenoid tissue with the usual tonsillar enlargement, which may cause well-marked respiratory obstruction, especially during an acute infection involving these structures. Nasal obstruction, of course, plays no part in thymus asthma, but ordinary caution suggests a radiogram of the upper chest in severe types of obstructive breathing.

(6) The dyspnea of bronchopneumonia, especially in rachitic infants with atonic chest walls, which may simulate thymus asthma. If adenoids also are present, the pulling in at the base of the chest may be as severe as in membranous laryngitis. Apart from evidences of infection, the chief distinguishing factor is found by the examination of the lungs, both physical and radiographic. In thymus asthma, high fever is almost always a precursor of convulsions, and death will quickly follow almost invariably. Even when pneumonia begins with convulsions, death rarely follows within twelve hours, as may happen in thymus cases.

(7) Foreign body. Since the bronchoscope has come into general use, we have learned that obstructive dyspnea, either inspiratory, expiratory, or both, not rarely is due to this cause. The history, the fact that severe dyspnea may last for days without causing death, and the physical and x-ray examinations of the lungs, make differentiation from thymus disease comparatively easy.

(8) Retropharyngeal abscess. Whereas this disease at first is more apt to cause difficulty in swallowing than in breathing, nevertheless, in certain types of shallow throats with marked swelling and hypersecretion of the pharyngeal glands, the narrowing may be so great as to cause actual dyspnea. In typical cases, the child is more apt to lie with the head extended than is the case in thymus asthma. By simple inspection and palpation the diagnosis usually can be made easily.

Discussion

More important perhaps than mere size of the thymus is the shape. The results of x-ray studies have been described above as only approximately accurate. Two types of enlarged thymus glands, for example, may escape absolute definition, the narrow thick thymus, with an increase in the anteroposterior but not in the lateral diameter, and the broad flat thymus which may cast only an indefinite shadow.

In any suspected case, therefore, even if the radiologist can find no positive evidence of enlargement, therapeutic application of the x-rays or radium should be made until the shadow is reduced to normal proportions or until clinical symptoms have entirely disappeared. Treatment causes a wholesale disintegration of lymphocytes. Sudden release into the circulation of a large amount of nucleoproteins is a possible risk, but this may be obviated by conservatism in the application.

Some authors consider that involution of the thymus of infants caused by x-rays will overstimulate the mental and physical development. Experimental evidence (Hammar) shows, however, that there is a slow regeneration of lymphoid elements after x-ray involution, in many respects similar to that which occurs after relief from starvation.

A "suspected" case may be defined as one which has shown any evidence of respiratory difficulty not clearly due to causes other than enlargement of the thymus. I do not believe that the so-called status lymphaticus can often be diagnosed with certainty antemortem. Suspicion should attach to the child, especially if under 3 years of age, who exhibits widespread lymphatic hyperplasia with or without splenic enlargement. No operative interference on such a child should be attempted without x-ray studies, whether the thymus area is enlarged to percussion or not.

If all borderline cases are to be suspected, it is inevitable that there will be unnecessary use of the x-rays, both in diagnosis and in treatment. Until diagnostic criteria are available for differentiating the harmless from the harmful thymus, there seems to be no choice, since we are dealing on the one hand with a potentially fatal disease and on the other with a harmless but most efficient preventive and curative measure.

In some clinics, the routine preoperative technic for the tonsil and adenoid operation includes a radiographic study. With the criticism that this seems to be an unnecessary precaution, the surgeon who has lost an operative case from thymus asthma probably will not agree.

Finally, it may be permitted to point out that the very nature of thymus death is calculated to destroy a physician's professional poise. The death of any patient is a cause for more or less self-reproach, but an unexpected and possibly avoidable death is not only a reproach to the physician, but in these days, an excuse for the laity to interpret it as due to professional neglect. From this standpoint, it may be admitted that preoperative study of all patients under 4 years of age by x-rays is justifiable technic.

CONCLUSIONS

There are two typical forms of so-called thymus death: (1) Sudden and usually unexpected, circulatory in type, occurring in an individual who presents more or less evidence of lymphoid hyperplasia. The thymus may be larger than the average, but in many cases the size may fall within the normal range. The exact nature of these deaths is unknown, and we have no positive evidence that they depend upon thymic hyperplasia *per se*. (2) Ingravescent death, respiratory in type, occurring in an individual with a thymus which usually is larger than the average or at least with an increased anteroposterior diameter. Such patients usually give a history of respiratory difficulty occurring before the fatal attack.

Although we do not know the exact relation of the thymus to sudden death, in the light of experience, it is a wise practice to submit all children who show any of the characteristics of status lymphaticus to x-ray study. If there are marked evidences of general lymphoid hyperplasia, even x-ray treatment of the thymus will not insure complete safety from the operative standpoint. Such patients are apt to be poor surgical risks. All those who give a history of unexplained respiratory difficulties should have x-ray or radium therapy, regardless of the results of x-ray study, before they undergo operation. Ultraconservatism suggests that all children under 4 years of age should undergo a preoperative x-ray study.

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THYMIC DEATH IN AN ADULT DURING TONSILLECTOMY UNDER LOCAL ANESTHESIA

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Death during a tonsil operation in an adult with a large thymus as the apparent cause is an exceedingly rare occurrence, very few cases having been recorded in the literature. A complete history of this case, and an equally thorough autopsy report were obtained, and for these reasons the case is being reported.

The thymus gland is a temporary organ, belonging to the ductless-gland system, as a rule attaining its full size at the end of its second year, when it ceases to grow, and gradually dwindles, until at puberty it has almost disappeared.

If examined when its growth is most active, it will be found to consist of two lateral lobes placed in close contact along the middle line, situated partly in the superior mediastinum, partly in the neck, and extending from the

fourth costal cartilage upward as high as the lower border of the thyroid gland. It is covered by the sternum, and by the origins of the sternothyroid, and sternohyoid muscles. Below, it rests upon the pericardium, being separated from the arch of the aorta, and the great vessels by a layer of fascia. The thymus is formed from two lobes, which often differ in size, but are usually united so as to form a single mass. It is pinkish in color, and its surfaces are lobulated. It is about 2 inches in length, and 1½ inches in breadth.

Status lymphaticus or status thymicus is a condition of body debility which is characterized by hyperplasia of the thymus and of the lymphoid tissues generally throughout the body, and also especially in adult cases by hypoplasia of the heart and of the arterial system.

CASE REPORT

J. W., female, married, aged 20, was admitted to the University Hospital, service of Dr. Stengel, on December 4, 1924. Her chief complaint was pain and swelling of the joints. She had been apparently well until four weeks previous, when she noticed the sudden appearance of swelling and pain in the left knee. The skin around the joint became tense and purplish, and there was exquisite tenderness on pressure. These symptoms gradually improved. A few days later, lumbar pains developed, along with an acute tonsillitis, the latter subsiding in a few days. On November 30, she spent all day cleaning windows, and rested well that night. The next morning she noticed that the joints of the left hand were swollen, painful, and tender, the swelling extending up the arm. Three days before admission, she developed sore throat again, this being followed by pain and tenderness in the hip. The sore throat gradually cleared up, and the hip condition improved, but she was unable to walk. There is a history of frequent headaches, localized chiefly in the frontal and temporal regions, beginning three years before admission, coming on about twice a week, and lasting for a day. The patient stated that she was a strong healthy child. When ten years of age, she developed bronchial trouble, characterized by fever, tightness of chest, and cough occurring in paroxysms, coming on in the spring and fall of the year, and each paroxysm lasting about two weeks. Attacks ceased after the age of thirteen. During the winter months, there had been frequent attacks of sore throat which kept her from school.

Physical examination was made by Dr. Elmer G. Shelly. The patient was slightly toxic, and evidently suffering from pain in her left hand. The skin was hot and dry, and her face was flushed. Examination of her mouth showed carious teeth, together with pyorrhea and gingvitis of a mild degree. The tonsils were markedly congested, enlarged, and infected. The anterior upper cervical and posterior cervical lymph nodes were enlarged and shotlike. There was no enlargement of the thyroid gland. Axillary nodes were enlarged, particularly on the left side. The left hand was swollen from the radiocarpal joint to all the fingers, especially the middle finger. The thumb was not involved. There was redness and local tenderness, and the middle finger, hand, and wrist were immobilized. The left hip showed some swelling and tenderness behind the trochanter. The right foot presented a talipes equinovarus. The patellar reflex was brought out only on reinforcement.

Urinalysis was negative except for many white blood corpuscles. The blood pressure was 120-70, blood Wassermann negative, white-cell count 9,000, blood culture negative.

The patient was given hypodermically ⅛ grain morphin sulphate and 1/150 grain atropin sulphate, a half-hour before operation. The operation was performed in the sitting position. The anterior faucial pillars were touched with a few drops of 10-per-cent cocain solution. Four c.c. of one-half-per-cent novocain solution plus two drops of 1 : 1000 adrenalin solution were injected through the anterior pillar, back of the capsule, at about the junction of the upper and middle third. The patient soon became greatly excited, and the left tonsil was rapidly removed. She then began to stiffen, with short clonic convulsions. This was one to one-and-a-half minutes after the injection of the novocain. She then lost consciousness, became cyanotic, the respirations became irregular and shallow, and the pulse feeble. She became quiet in about a half-minute, but when touched, her muscles would go into a spasm. She was given strychnin sulphate gr. 1/30, but her respirations soon stopped, her pulse continuing for a short time after breathing ceased. Intracardiac injections of four c.c. of adrenalin solution 1 : 1000 were given by Dr. Elmer G. Shelly. The whole attack, from the time of the novocain injection to cardiac arrest was about four minutes. Artificial respiration was continued for twenty minutes, but without effect. A sample of the solution injected was analyzed by Dr. A. N. Richards, Professor of Pharmacology of the University of Pennsylvania, and was found by him to be novocain 0.63 per cent strength.

This is the saddest experience I have ever had since I began the practice of otolaryngology. To think that I have taken an apparently healthy individual to the operating room for a simple tonsillectomy and in a few moments returned a corpse.

At necropsy by Dr. Baldwin Lucke of the Pathological Laboratory of the University of Pennsylvania, the most important pathological findings were marked hyperplasia of the thymus gland, early arteriosclerosis, and hypoplasia of the aorta, marked relaxation and hypoplasia of the heart, terminal congestion, and edema of the lungs, chronic lymphadenitis, and abdominal lymph nodes.

The anterior mediastinum was occupied by an enlarged thymus which was definitely bilobed. The larger lobe was 12 cm. in length, 4 in greatest width, and 8 mm. thick. The somewhat smaller lobe measured 11x5 cm. in length and width, and 8 mm. in thickness. The cut surface through the pinkish-gray soft organ everywhere showed normal appearing glandular tissue.

The thyroid was normal in size and appearance. There was no hemorrhagic infiltration about the operative wound. No great vessels were injured. In brief, the operative field presented nothing of note.

The aorta appeared definitely smaller than normal. In the upper thoracic portion, the circumference was but 3 cm. The intima was generally smooth and pale. There were a few yellowish, longitudinal striations on the posterior surface.

The interlobular stroma of the thymus was normal in amount and character, and carried normal blood vessels. The lobules were of normal size, and were clearly separated into a dense cortex and a more loosely arranged medulla. The latter appeared distinctly hyperplastic. It occupied a greater amount of

space (with reference to the cortex) than is usual, and its cells consisted of small round elements having a deeply staining compact nucleus and relatively little cytoplasm. A very delicate reticulum which enmeshed the medullary elements, could just be seen. Occasional eosinophils and epithelioid cells were encountered. The medullary blood sinuses had the usual wide lumina and thin walls. The bodies of Hassall were large, but reduced in number. With few exceptions, they had lost their cellular make-up, and consisted of fused, laminated hyaline bodies. This hyalinization (or keratinization) was more massive in their central parts. The peripheral layers often showed a few elongated large epithelial-like cells. The cortical zone (with respect to the medulla) seemed narrow; it certainly had not taken part in the hyperplastic process. It was composed of the usual type of deep-staining lymphoid cells.

It has been my unfortunate and rather sad experience to see three deaths during or immediately following the removal of tonsils and adenoids—two in children under four years of age whose tonsils were removed under ether anesthesia, and who had apparently recovered from the anesthetic, when they suddenly became cyanotic and died, and the case herein reported under local anesthesia. All three cases were signed out as status lymphaticus, although no necropsy reports were obtained in the two children.

In a letter received from Dr. Emil Mayer, chairman of the permanent committee for the study of toxic effects of local anesthesia, he says:

"Thank you for your report which I will study and return the protocols shortly. Permit me to call your attention to the fact that as cocain was used, the case belongs to the classification of cocain-novocain deaths, in accordance with the report of our committee."

Several weeks later, another letter from Dr. Mayer states: "I am returning to you the autopsy protocols, and beg to thank you for sending them. Yours is one of the few cases in which the autopsy showed distinct thymus disease. Dr. James A. Babbitt, in a most complete article on 'Diagnostic Problems in Status Lymphaticus' in the June number of the *Archives of Otolaryngology* says: 'Status lymphaticus, whether pathologically or physiologically rated, presents a definite menace to operative procedure, and therefore (1) its suspicion should be recognized; (2) its diagnosis should be established; (3) operative decision should be measured with the same or more care than in cardiac lesion, renal insufficiency, or hemorrhagic liability; and (4) in case of sudden death, its justification should find a convincing picture conforming to status lymphaticus.'"

It is my custom now to radiograph the chest of all patients who are referred to me for tonsillectomy—children as well as adults. This, of course, puts the patient to an added expense, which is not necessary in a good many cases, but my experience teaches me that it is safer for the patient, and a comfort to the doctor to know that the chest is negative before operating.

It is now the routine treatment to radiograph all children between one and fourteen years of age booked for tonsil and adenoid operation at the throat department of the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary. All children showing a broad superior mediastinum are considered as suspicious cases, and are given four x-ray treatments of a third of an erythema dose. The treatments are repeated at intervals of ten days. The total number of children radiographed were 2,344. Of these, 185 (or 7.5 per cent) showed a positive thymus shadow. Of the 185 positive cases, 110 have been treated and successfully operated upon. Ninety per cent of the children treated showed diminution of the broadness of the superior mediastinum.

1610 Spruce St.

Symposium on Fractures

EARLY TREATMENT OF FRACTURES OF THE LONG BONES

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Fractures of the larger long bones of the body should no longer be considered in the light of minor surgical conditions. They, on the other hand, with few exceptions, are major emergencies, and are so considered by the surgeons of today. As such, they demand just as much immediate care and attention as does any other major emergency, if the best results are to be obtained. Our recent experience in the late war proved this most conclusively. When the severe compound fractures of the femur were treated by no splinting, no morphin, and no deshocking measures, the ultimate mortality was over 70 per cent. After the more modern methods were routinely used, the mortality was reduced to under 15 per cent. These modern methods consisted simply of immediate fixation and traction, morphin in large doses, combating of shock, and early débridement and reduction of the fragments. With this as a lead, our treatment procedures have been improved by refinements in technic and a widespread interest that has resulted in Fracture Commission activities both in this country and abroad.

* Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

The main purpose of this paper is to consider merely the early treatment of the long-bone fractures, especially those of the closed type. By "early treatment" is meant the care of the fracture until the reduction has been accomplished and the proper dressing applied. The necessary brevity of this paper precludes any but the most general considerations.

First Aid

Treat the fracture as a major emergency. "Splint 'em where they lie." Give morphin, and avoid additional injury in the transportation. If the humerus is broken, the patient is best transported in the sitting position, with wrist sling, the weight of the limb acting as a traction weight. Patients with lower-limb fractures are best transported in the supine position, using the Thomas splint and traction. Always apply gently increasing traction in the direction of the long axis of the broken bone before any attempt is made to move the limb. This prevents injury to soft parts, and lessens pain. Shock should be treated by heat internally and externally. No attempt should be made to determine the existence of crepitus, etc., until the patient is in a position to have the condition handled for a complete reduction.



Fig. 1. Author's dressing for fractures of shaft of humerus requiring abduction position.

Thorough examination should be undertaken in the absence of shock. Severe shock requires intravenous fluid or, better, blood and ephedrin. All manipulations should be painless. Pain causes shock, muscle spasm, and additional injury. Associated injuries should be sought for and given attention. If possible, the examination should be done in a fluoroscopic room, properly fitted up for fracture reduction and fixation. Should this be impossible, and should it be unwise or impossible to give a general anesthetic for a painful examination, an x-ray should be taken, developed immediately, and used as a guide to subsequent treatment in determining the position and type of dressing. The x-ray should be taken in two planes, or stereoptically in some cases, such, for example, as fractures of the surgical neck of the humerus. Diagnosis of the fracture should be supplemented by a thorough diagnosis of the injury and pathology of the soft parts, as a proper understanding is necessary to a satisfactory result.

Treatment

Each fracture is a problem peculiar to itself, requiring individual treatment, directed not only to the reduction and maintaining of the fracture, but to the care of the soft parts as well. The earlier the treatment (minutes and hours rather than hours and days) the easier the reduction and the better prognosis. Swelling is no contraindication to but is rather an indication for immediate reduction, as it subsides almost at once after reduction. This is especially noticeable in fractures around the elbow. The changes in the tissue due to injury early interfere with the ease of manipulation and reduction. The contracted muscles become glued with the fibrin of the extravasated blood, rendering them stiff in their shortened position. The blood clotted around the bone ends undergoes absorption in a few hours, and is replaced by a plastic mass filled with connective-tissue cells. This early develops into granulation tissue, which forms as a jelly-like mass around the bone ends, later becoming very much like soft rubber or putty, preventing ease and accuracy of reposition. In four to eight days this is a real handicap, so much so that it can be safely stated that after a fractured femur has been unreduced for eight days, complete reduction cannot be obtained by closed methods. Hence the necessity of early and satisfactory reduction rather than delayed and re-



Fig. 2. Author's dressing for supracondylar fractures of the humerus. Note the hyperflexion lateral position of the limb.

peated attempts. To accomplish this, anesthesia is necessary.

Any of the general anesthetics may be employed unless contraindications exist. Of these, ether gives the best relaxation, which is its only advantage. Gas-oxygen, reënforced if necessary by ether, is better in that when given properly it is less dangerous than ether. It has, however, the disadvantages of failing often to give relaxation and is difficult to give in the darkness of a fluoroscopic room without constant recourse to flash-light illumination.

Recently, first from necessity and then from choice, the writer has employed local anesthesia (novocain ½ per cent with 10 minims of adrenalin) in fractures of the humerus, radius, and ulna, as well as of other bones of the body, for both open and closed reduction. For the humerus, the best results are obtained by using the brachial-plexus anesthesia of Kulemkampff. For fractures of the lower half of the humerus and of the entire radius and ulna, regional transverse-block-infiltration anesthesia may also be used successfully. If muscle relaxation is required, intraneural infiltration will result satisfactorily.

Local anesthesia has the advantage of being a simple procedure that requires no assistant as anesthetist; the patient can coöperate as the muscles are not paralyzed; there is no struggle and danger of displacement of fragments afterwards, as may occur under general anesthesia; there are no contraindications to the use—in fact, it permits of fracture reduction in the extremities in the presence of bronchitis, pneumonia, asthma, cardiorenal disease, fracture of the ribs, jaws, etc. The method is one that will rapidly grow in popularity.

When possible, the reduction should be undertaken with the aid of the fluoroscope and fracture table combined. A reliable roentgenologist, trained assistants, nurses, anesthetists, and orderlies are essentials to a smooth-running reduction and dressing. Without these, catastrophies, slipping of fragments, etc., will happen. Very little exposure will be necessary after one becomes accustomed to this work. After a short glimpse to determine the position and condition of the fragments, the x-ray may be turned off, and the reduction attempted. The ray is then applied, and the position ascertained. Direct finger manipulation under the ray is of great value, and much can thus be accomplished in a few seconds. Two pairs of ordinary surgeon's gloves should be worn. The heavy glove is too cumbersome.

In epiphyseal separation of the upper end of the humerus, the usual deformity is with the diaphyseal fragment internal, and the epiphyseal fragment external and in complete abduction. After unsuccessful attempts at reduction, the upper end of the lower fragment is often found external to the upper fragment.

TECHNIC: Aided by the fluoroscope, when possible, with the patient under an anesthetic, the limb is carried through extreme abduction to a position beside the patient's head, and traction made with counter pressure on the top of

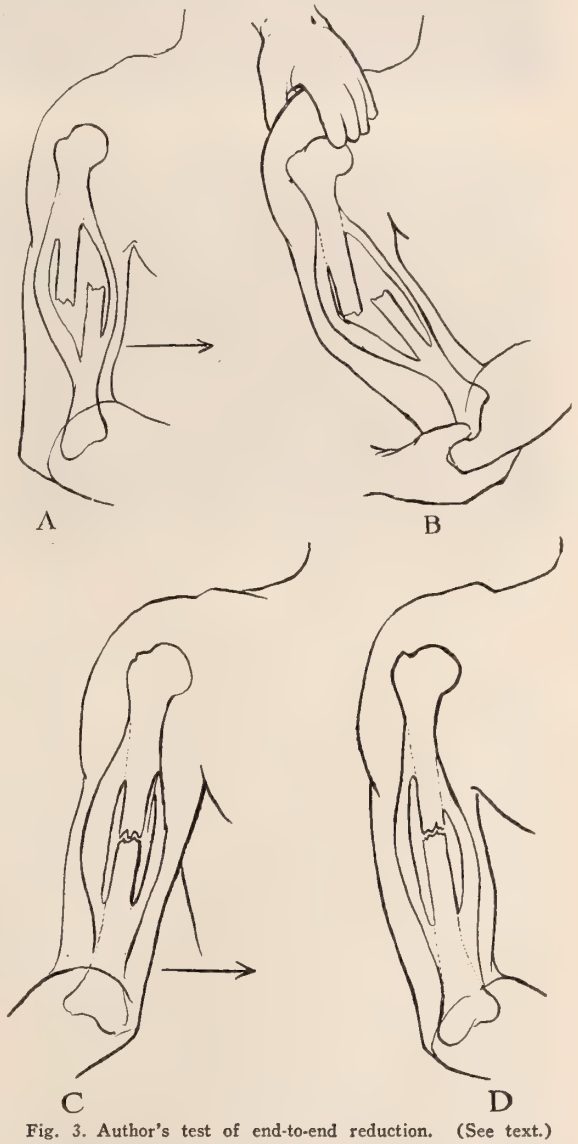


Fig. 3. Author's test of end-to-end reduction. (See text.)

the shoulder, as one would reduce a luxatio erecta. In the majority of cases this will result in at least a partial end-to-end approximation. Then with traction released, the arm is gradually carried down to the position of slight abduction, and by means of traction in this direction, with foot fulcrum in the axilla, coupled with to-and-fro rotation of the humerus, the complete reduction is accomplished. These cases may be dressed with an axillary pad, shoulder pad, and

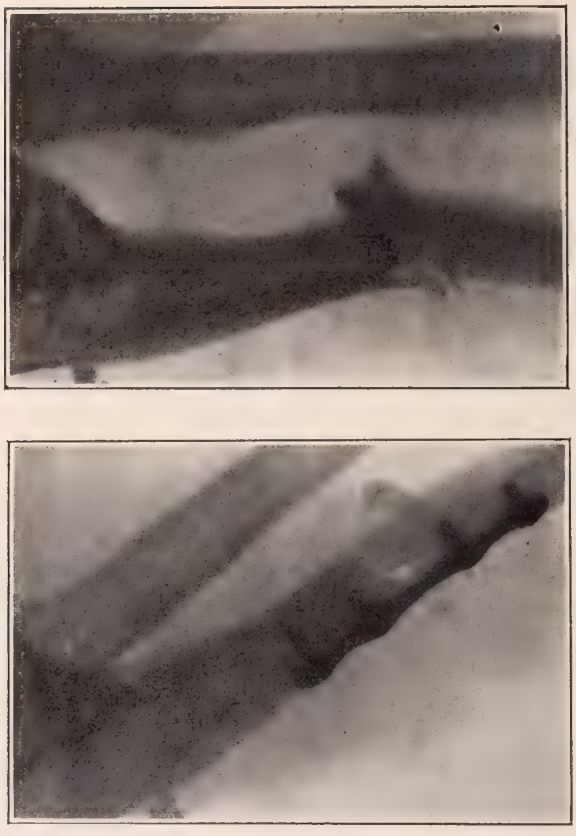


Fig. 4. Compound comminuted fracture of the ulna, complicated by dislocation of the head of the radius; (a) before and (b) after reduction under local anesthesia.

wrist sling, all bound to the chest by a circular bandage.

In fractures of the surgical neck, reduction is best accomplished by using a general anesthetic and, when possible, the fluoroscope. Carry the arm into abduction, the forearm presenting forward. In this manner the governable lower fragment is carried to meet the ungovernable upper fragment, which is abducted, externally rotated, and probably slightly flexed. With the elbow flexed, traction, accompanied by slight to-and-fro rotations, is made upon the arm. If necessary, an assistant pushes upon the upper fragment and pulls out with the other hand upon the upper end of the lower fragment. The to-and-fro rotation serves to disengage any obstructing spicules of bone. Should the usual deformity still persist, the arm should be carried out at right angles, or even into complete abduction. This will usually result in reduction. The limb is then gradually brought down to near the side of the patient upon a triangle, and dressed as shown in figure 1.

This same type of dressing is a very good one for fractures of the middle of the shaft of the humerus.

Supracondylar and epiphyseal separations at the lower end of the humerus are best reduced as one would reduce a posterior dislocation of both bones. The limb should be placed in the lateral hyperflexed position, with the dressing shown in figure 2.

In the reduction of fractures of both bones of the middle of the forearm, the forearm should be acutely flexed on the arm, and the hand placed in the supinated position. Traction, countertraction, and manipulation should reduce the ulna. With the fingers and thumb of one hand supporting the ulna in position, this bone is now used for leverage to accomplish reduction of the radius. This fracture is best treated by molded plaster-of-Paris splints, confining the fingers, with the arm in the semisupination, occasionally in midposition, supplemented with an internal right-angled splint.

If both bones of the forearm are broken in the lower third, the above position and manipulations are undertaken, but the radius should be reduced first by angulation, and then the ulna, using the radius as a fulcrum.

In fractures of the femur, the Thomas splint with Pearson attachments and direct bone traction, or the author's plaster-of-Paris dressing with direct bone traction is used.

Fractures of both bones of the leg are best treated by molded plaster-of-Paris splints, applied with the patient's limb under traction, the fragments being molded in place by direct vision under the fluoroscope. If the molded splints are made to fit snugly at the ankle and just below the tuberosities of the tibia, they will prevent overriding of the fragments.

The limb should be placed in the position of muscle equilibrium, and after the reduction, the



Fig. 5a. Fracture of the humerus before reduction under local anesthesia.

ray should be turned on and the fracture site observed as the limb is moved about, that position being accepted that lets the fragments lie easiest in their proper place. If a fluoroscope is not available, often the writer has been able to recognize a reduction by the test described in figure 3. If one breaks a crayon of chalk, replaces the broken pieces, and then grasps the restored crayon by placing the thumb and index finger on each end and gently pressing together, the crayon can be moved about as one solid piece. So, with the broken bone, gentle pressure will permit of movement as of one piece, with little or no tendency to angulation.

Reduction should be only as complete as the individual case requires. Perfect anatomical reposition is not necessary nor desirable, if obtained at the expense of too much trauma and x-ray exposure.

Dressings: Each case is a law unto itself. The old teaching that a certain fracture required a certain position and splint is past. The dressing and position must fit the patient. On the author's service the following dressings are employed:

For fractures of the humerus, other than supracondylar, plaster-of-Paris jacket, abducted position.

For supracondylar fractures of the humerus, plaster-of-Paris jacket, in the lateral hyperflexion position.

For fractures of the forearm, plaster-of-Paris splints, and internal right-angled splints.

For fractures of the leg, plaster-of-Paris splints, and for fractures of the femur, plaster-of-Paris or Thomas and Pearson splints, with bone traction in flexion position.



Fig. 5b. Fracture of the humerus after reduction under local anesthesia.

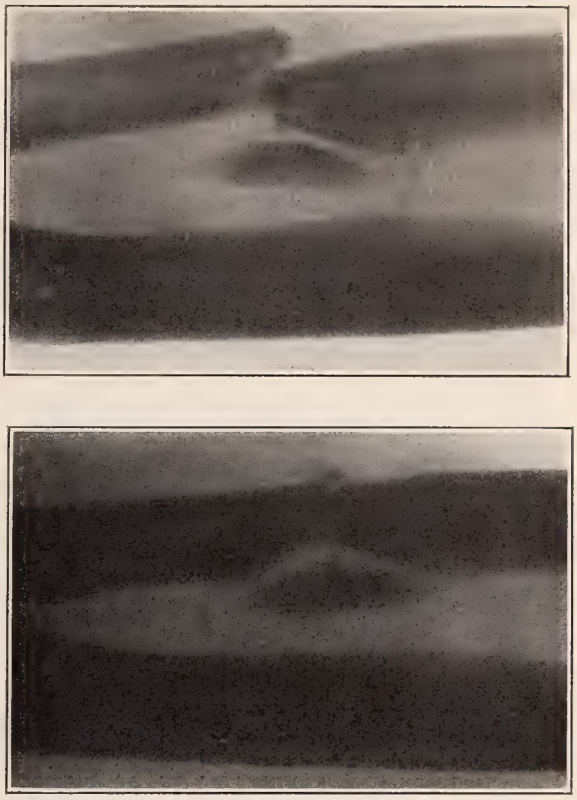


Fig. 6. Fracture of the radius, (a) before and (b) after reduction under local anesthesia.

An analysis of the last 120 acute cases treated by the writer shows some interesting facts:

Open reduction was performed in 10 cases (8 per cent of the long-bone fractures), 5 because of interposed muscle, and 5 for failure to maintain reduction.

Nine cases were reduced in from 1 to 12 hours; 3 in 48 hours, 3 in 72 hours, one each in 10, 12, and 21 days.

In all 10 cases, one or more previous attempts had been made at reduction.

Fluoroscopic reduction was used in 64 per cent of humerus fractures, in 64.5 per cent of forearm fractures, in 35.9 per cent of leg fractures, and in only 9 per cent of femur fractures, which latter have usually been treated by traction, the fluoroscope being used merely for sight manipulation after the shortening has been overcome.

The anesthesias used were gas-oxygen or novocain locally in some cases. Fig. IV, V, and VI.

Conclusions

In the vast majority of shaft fractures, femur cases possibly excluded, immediate fluoroscopic reduction under novocain anesthesia is the method of choice.

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THE TREATMENT OF COMPOUND FRACTURES

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Broadly speaking a compound fracture differs from a simple fracture in that the continuity of the skin is broken, to a greater or less degree. With this added lesion we have the greatest possible danger, namely infection. To bring about this laceration of the skin, the force is always severe, and usually causes, in direct proportion to the force applied, greater destruction of the underlying soft parts, which in turn again predisposes to a ready infection. Were it not for this marked destruction of soft parts, we should not be unduly concerned, for treatment of the fractured bone itself would be comparatively easy. We should attempt the reapproximation of the fragments into normal position, as nearly as possible, and feel confident of union with function, in direct proportion to the anatomical result obtained. Hence, I feel that in these cases, the first consideration is the control of infection.

Where normal anatomical position of the fracture is obtained, there the best functional result usually is found. Hence, our second consideration is the reduction of the fragments into as nearly normal position as possible, obtaining full length and normal alignment.

The next principle involved is the maintenance of the fragments in the proper position. This may be done preferably by internal fixation, or splinting with Sherman metal plates and tap screws; or by external fixation, splinting with traction and countertraction. The method of splinting which will allow the least amount of movement at the site of fracture is best, for I believe, contrary to the view held by many, that a little movement at the site of fracture stimulates repair.

Many arguments have been put forth against using a metal plate in acute compound fracture, some holding the plate responsible for infection, and others for retarded union. Of these, perhaps there is an element of truth in the second, especially if the plate is poorly applied and permits motion. Where properly applied, the amount of motion is reduced to a minimum, which in turn means that the amount of bridging and repair also is reduced to a minimum. Practically all plates must be removed in five to seven weeks. Usually beneath the plate there is an area of superficial bone necrosis, and above the plate a sinus. Upon removal, an ulcer presents which has been the disabling feature. In practically all cases, bony union is obtained many weeks before the ulcer will heal. This feature is dealt with by plastic repair, preferably by an Italian flap or graft by the Thiersch or Reverdin method, after proper sterilization of the granulation tissue.

The fourth consideration is the function of the proximal joints near the fracture. Immobilization of a joint for eight to ten weeks often causes more disability than the fracture. By practice during the World War we learned that early motion of joints reduced disability, and had little or no deleterious effect on repair of fractured bone. This had been advocated by Lucas-Championnière in 1897, and later by Mennell in 1911.[1]

It has been our endeavor to treat compound fractures with the above principles in mind, and for the purpose of classification, we might divide the cases as follows:

1. Those cases usually compounded from within, which call for rational débridement of soft parts with primary suture. (a) Immediate reduction with external fixation. (b) Delayed or secondary reduction with internal fixation.

2. Those cases which call for immediate rational débridement, with reduction and internal fixation by bone plate, followed immediately by Carrel-Dakin technic.

3. Those cases of either of the above, in which comminution does not permit of internal fixation, but which require reduction with skeletal traction, and external fixation by proper splinting, followed by Carrel-Dakin technic.

In a case entering the hospital emergency with a compound fracture of the arm, leg, or thigh, a sterile Dakin gauze dressing is applied with an appropriate splint to give temporary fixation. The patient's condition as to state of shock, and the extent of the skin wound is ascertained, and an estimation of the degree of deep soft-tissue trauma is made, then he is treated accordingly. If the wound is of the small-puncture type, and the underlying soft-part trauma is of a lesser degree, a débridement of the wound under local anesthesia is carried out. After excising the skin, one can determine whether a general débridement is necessary. If not, the wound is closed with drainage, Carrel-Dakin technic is instituted, and the patient is tabbed to be treated as a simple fracture with immediate reduction under the fluoroscope, or later open reduction after waiting ten days to two weeks for the establishment of proper tissue resistance. The cases which permit immediate closure form a very small percentage, and should be treated only by those of large experience. In the latter cases, the fracture is approached by an incision distal to and on a different plane from the wound.

If a general débridement is necessary, as soon as possible (fifteen minutes to six hours), an x-ray is made to determine the degree of fracture, if the x-ray is available. Otherwise, the patient is taken to the operating room for immediate operation. The anesthetic of choice is ether or ethylene. The x-ray plate having been studied, the fracture is classified and the type of fixation decided upon. We prefer internal fixation to skeletal traction in as many cases as possible, by the use of the Sherman plate and tap screw. This is carried out in almost all cases, save those where the comminution is so marked as to prevent drilling into a solid substance, or where the comminution of the fragments near or into the joint prevents fixation.

Regardless of the position of the fracture, the part is prepared by dry shaving, followed by the application of a 5-per-cent alcoholic solution of picric acid, then surrounded by sterile dressings. If necessary, a tourniquet is applied. We prefer to operate without it, as one can better differentiate between viable and nonviable tissue when doing the débridement. If the tourniquet is applied, as soon as the hemorrhage is controlled by clamping the larger vessels, it is released. A thorough and rational débridement of the soft parts and bone is carried out, removing all loose and soiled fragments of bone which are doomed to death or which cannot be used as grafts. In carrying out the débridement, we do not hesitate to make or enlarge the incisions in a longitudinal direction, as this insures direct inspection, and makes possible a better result. After the débridement, first of soft parts and then of bone, the fragments are placed in normal position, and realignment attempted. With the aid of proper clamps, normal position can be maintained. A bone plate of appropriate size is then applied, using transfixation screws where necessary through the larger fragments. The screws should always be placed away from the line of fracture. After complete hemastasis, no attempt is made at closure. The wound is immediately treated by the Carrel-Dakin technic. The part is then placed in an appropriate splint and the patient is returned to his bed, where the splinted part is suspended from a Balkan frame in an elevated position.

In those cases where posterior or dependent accumulation of fluid might take place, drainage is always indicated. This is especially true in fractures of the femur, where the damage and relaxation of the posterior muscles with numerous muscle planes leads to easy pocketing of fluid.

In those cases which do not permit the application of internal fixation, the position is maintained by direct skeletal traction, using the Pearson nonpenetrating ice-tong method in the femur and humerus. In the tibia and fibula, ulna and radius, some form of molded lateral plaster splint usually can be applied to control the position.

According to the degree and method of fixation, massage with passive and active motion is started in from eight days to three weeks. This movement must always be done under the guidance of the surgeon. The range of motion should never go to the painful point, but each day should be increased to a point encroaching upon the heel of pain (Mennell).

In from three days to three weeks, the temperature drops to normal, meaning that a full defense against infection has been accomplished. Repair of these fractures is usually retarded when compared with simple fractures, but union of a fibrous nature, or enough to prevent slipping, takes place in from five to seven weeks, at which time the internal or external fixation is removed. The wound is permitted to close by granulation and scar formation, or is closed by plastic methods (skin graft).

In weight-bearing bones, as soon as union is firm enough to prevent bowing, tested by lateral bending as a guide, with nontender callus, and x-ray showing the proper density (varying from ten to fourteen weeks), a walking caliper splint is applied and the patient is permitted to be about with the aid of crutches.

I realize that certain leading bone surgeons, or the consensus of surgical opinion, is against the use of any internal fixation in the early treatment of compound fractures. Personally, I cannot see the contraindications, save as above stated. With a properly applied plate, the reduction is retained, and nature has less to repair. The presence of the plate might retard repair to a lesser degree, but I doubt it. It does not lead to infection, and if infection occurs, I feel that it is because of an incomplete or improper débridement, failure to carry out the Carrell-Dakin treatment properly, or other circumstances which prohibit débridement before six hours have elapsed after the fracture occurs.

The entire procedure must be carried out with the rigid no-hand-contact technic as laid down by Lane. Every case must be handled with the same respect as an open reduction of a simple fracture. The exception to the above are the fractures with a small perforation or laceration of the skin, and with relatively little swelling or deep soft-tissue destruction. In these cases, a débridement under local anesthesia usually suffices, and the case can be treated as an ordinary simple fracture, by immediate closed reduction.

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FACTORS OTHER THAN MECHANICAL THAT INFLUENCE THE HEALING OF FRACTURES

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The problem of bone repair and union after fracture has long been a matter of paramount interest. According to Bancroft,[1] immediately after fracture there is hemorrhage between and about the fragments; then fibrin formation, and contraction of the clot; next, an ingrowth of connective tissue and small blood vessels; following which, calcium salts are deposited in the avascular zones between the blood vessels. Later, in the areas of exuberant callus, absorption of calcium salts takes place. "As to the actual deposition of bone, the weight of evidence is, at present, in favor of the work of Barille and of Wells"[13] (Petersen[8]). Wells holds that there is no definite bone-producing cell, but that a complex salt in the blood—calcium carbonophosphate—is precipitated in the bony matrix by a change in the carbon-dioxid content of the tissue, where it is finally converted into calcium carbonate and calcium triple phosphate.

DELAYED UNION AND NONUNION

Under certain conditions, union fails to occur in the expected interval of time. It may simply be delayed and eventually take place, or nonunion and a pseudarthrosis between the fragments may result. Delayed union and nonunion should be sharply differentiated. If, after the usual time for union (in the case of a tibia, five to six weeks; or of a femur, six to eight weeks), the fragments have not united, there is delayed union. This does not, by any means, indicate that there never will be union. If, after exhausting every means to obtain union, for months rather than weeks, there is still hypermobility at the seat of fracture, nonunion may be diagnosed. By demonstrating a true pseudarthrosis, a radiogram may be of value in determining nonunion. Delayed union usually requires three months, and often six months, for recovery. One of our cases did not unite for eight months. Also, as Nutter[7] points out, delayed union indicates nonoperative treatment, with excellent hope of success. Nonunion implies operation.

Stimson[11] states that von Bruns, in his vast fracture work, found delayed union in 1¼ per cent and nonunion in ½ per cent. Hey Groves estimated nonunion in 4 to 5 per cent (Nutter). In hospital practice where the severe industrial and complicated fractures are treated, the percentage is considerably higher. In our former study of 374 fractures, there were found 64 cases of delayed union (17.1 per cent), and 10 cases of nonunion (2.67 per cent).

Delayed union or nonunion may result from:

(1) General causes: (a) nervous diseases, such as tabes dorsalis and general paresis; (b) constitutional disorders, such as gout, diabetes, osteomalacia, chronic nephritis, or rickets; (c) general infections, such as erysipelas, acute exanthemata, measles, scarlet fever, typhoid fever, or syphilis; (d) old age; (e) starvation, insufficient nutrition, scurvy; (f) anemia from severe hemorrhage, pernicious anemia, or grave secondary anemia.

(2) Local causes: (a) mechanical interference with fracture union, such as separation and displacement of the fragments, interposition of soft tissues between the fragments, severe trauma to bone and periosteum, causing a partial or complete loss of continuity; (b) deficient blood supply by injuries to the nutrient artery of the affected bone, or severe trauma to soft tissue adjacent to the fracture; (c) bone lesions such as osteomyelitis with necrosis, or tumors (primary or secondary) in which pathological fractures have occurred; (d) infection of the soft tissues; (e) nerve injury.

(3) Treatment of the fracture itself: late reduction, open reduction, or plating.

(4) Location of the fracture.

(5) Deficient calcium and phosphorus concentration in the blood.

The greatest factor in obtaining proper and normal union is adequate reposition and mechanical reduction of the fragments, and the maintenance of this replacement. Next to mechanical faults, interference with the blood supply to the seat of fracture is by far the most common cause for inadequate union, and usually results from the trauma accompanying the fracture, although it may be due to too tight bandaging or splinting (Nutter). Open or compound fracture, with infection of the soft tissues or of the bone, must be ranked third. In our previous report of 52 compound fractures, 39 showed delayed union or nonunion, and in 17, chronic osteomyelitis or bone fistulæ occurred.

The general causes of delayed union or nonunion are of mere academic interest, with the exception of syphilis. Syphilis may act systemically or locally in the production of gummatous deposits. Of 64 cases of delayed union reported in 1919, I found 3 due to syphilis; in 2 of which union seemed hastened by antiluetic treatment.

The third required amputation, due to an intercurrent infection. Nutter refers to Tees's experience in the Canadian Army Medical Corps: "A considerable proportion of cases of delayed and nonunion seen at the Buxton Hospital were found to be syphilitic, and responded favorably to antiluetic medication." Klauder[5] mentions the susceptibility of bone marrow to spirochetal invasion, and states that syphilis may cause fragility of the bones which predisposes them to fracture, though there are many fractures sustained by syphilitics which unite uneventfully. He cites striking cases reported by Gellé, in one of which, with no union at the end of seven months, it occurred after one month of antiluetic treatment. In another, a fracture of eight weeks' duration began to unite after fourteen days of treatment. With cessation of treatment for two weeks, no progress was made, but with the resumption of mercurial medication, union occurred in three weeks. In the last five years, we have had three cases of fracture with a Wassermann 4-plus, and no other evidence of active syphilis. All united normally under antisyphilitic treatment, in one case with slight delay, nine weeks, in a fracture of the tibia.

Fractures at certain locations seem more prone to sluggish union—notably the neck of the femur, juncture of the middle and upper third of the humerus, and the lower third of the tibia, probably because of circulatory deficiencies.

Open operation and plating for reduction may tend to delay union, largely because the operative procedures, with free exposure of the fragments, interfere further with the blood supply, because the technic employed results in deficient nutrition at the seat of fracture, or because infection occurs.

Calcium and Phosphorus Metabolism

Six years ago, in a study of the causes of delayed union and nonunion, I came upon a group of cases in which the etiologic factor was obscure, and for which I suggested that deficient calcium metabolism might be responsible. More recently, with the evolution of simple quantitative tests for the inorganic constituents of the blood, several reports have been made upon the metabolism of calcium and phosphorus, and their relationship to the healing of fractures. Howland and Kramer[4] have shown that in rickets the blood serum is deficient in phosphorus, and that treatment instituted to raise the phosphorus content of the serum will cure this disease and bring the blood phosphorus back to normal. Phemister[9] also found that in rickets, yellow phosphorus causes a deposition of new bone. In 1922, Tisdall and Harris[11] published the first report on metabolism *in fractures*. Their conclusions were that:

(1) The phosphate content of normal blood serum from birth to 20 years is remarkably constant, at which period it drops to a lower concentration, and remains quite constant at this lower level throughout adult life.

(2) This drop in phosphorus in the serum at 20 years corresponds to the period of cessation of bone growth.

(3) During the period of union of fractures in adults, the phosphate content of the serum is raised to the level of that of childhood—the period of active bone growth.

(4) In a certain group of fractures, the usual rise in phosphate content in the serum takes place, but without union. There is, therefore, probably a local metabolic process at the site of fracture which is necessary and probably even more important for the production of union than the phosphate content of the serum.

Recently, Petersen has found, of seventeen cases of nonunion, eleven in which deficiencies in either calcium or phosphorus content of the blood serum existed. In nine, complete studies were made, six *over* and three *under* twenty years of age. Six presented low phosphorus, with normal calcium and callus formation; two showed low calcium, normal or slightly deficient phosphorus, with no callus formation. Union was obtained, following measures used to increase the calcium and phosphorus in the blood. Nonunion occurred in one case, due to osteomyelitis at the seat of fracture. Three cases, after diet and therapy had been instituted, required operation to obtain union. He followed the method of Howland and Kramer in using the product of the calcium and phosphorus in milligrams per 100 c.c. as the unit of measure. Tisdall and Harris determined the adult calcium content to be 10 mg. per 100 c.c., that of phosphorus 3.8 mg. per 100 c.c.—a product of 38 to 40. In rickets, Howland noted that no healing takes place with a product below 30, and very little until the product is between 35 and 40. Petersen, likewise, states that a product of 25 to 40 is necessary for active healing in fractures.

The diet to raise the phosphorus and calcium constituents was suggested by Dr. E. V. McCallum, and consisted in a high protein diet, with 3 ounces of liver three times a week, 500 c.c. of buttermilk, 3 grams of calcium carbonate, one teaspoonful of cod-liver oil, raw fruit, oranges, etc., daily. With low calcium, cod-liver oil was withheld until callus was evident. In one case, a mercury quartz lamp was used instead of cod-liver oil; and in another, yellow phosphorus, 1/100 gr. twice daily, was given.

Three weeks or longer was necessary to obtain changes in blood serum. Petersen failed to find in normal fracture cases used as controls any material increase in phosphorus and calcium during union.

Watt[13] has shown that there is evidence of a calcium balance between the calcium of bone and the calcium of the blood: "When the calcium content of the blood is normal, the osteoblasts can obtain and deposit bone, but when the blood is poor in calcium, their action is reversed, salts being removed from the bone to raise the calcium content of the blood."

Further, Grove and Vines[3] state that calcium in the blood occurs in two forms (ionized and combined), and that parathyroid extract by mouth raises the ionic calcium in the blood. Recently, Collip has shown that when blood calcium is low, parathyroid active principle will restore it to normal. A rationale may be established for parathyroid therapy to be added to the calcium-increasing armamentarium.

In the last six months, we have been carrying out routine calcium and phosphorus determinations on all our fractures; but in reviewing the results, I find that our cases are as yet too few to reach any definite conclusions. We expect to continue our observations, but as a preliminary report, it may be mentioned that in an occasional case only has there been a rise in phosphorus with the healing of the fracture. We have had no cases of nonunion. In five cases of delayed union, there was no deficiency in either calcium or phosphorus, and the calcium-phosphorus product was invariably between 35 and 40 or over 40. In another, a fracture of the fibula, the calcium was 9.3 mg. per 100 c.c. and the phosphorus 3—giving a product of 27.9. Union occurred in normal time. Tisdall cites a similar case. Also, with a greenstick fracture of the radius and ulna in a boy of four with obvious rickets, phosphorus was low, in spite of good callus, and union was not complete until eight weeks after injury, following a high milk and cheese diet and cod-liver oil. Final phosphorus determinations in this case could not be made.

Discussion

Tisdall's and Harris's work seems to indicate that, during the normal fracture healing period, there is some blood phosphorus (and possibly calcium) response. Petersen fails to find this response, but demonstrates that calcium and phosphorus deficiency is a factor in certain cases of nonunion. In the discussion of Petersen's report, it was brought out by P. D. Wilson that many of his cases were of long duration, had spent months in hospital confinement, and that possibly the chemical change might follow rather than precede the actual nonunion. However, the fact that union followed the return to normal of calcium and phosphorus in the blood cannot be overlooked.

The phases of the problem that concern us as surgeons, treating fractures, are: (1) Is there any change in the blood calcium and phosphorus in fractures?

(2) Can calcium and phosphorus be normally increased in the blood in fractures?

(3) If the blood calcium and phosphorus *can* be increased, will fractures unite more quickly?

(4) Can cases deficient in calcium and phosphorus be detected at the time of fracture, be given appropriate diet and therapy, and nonunion be prevented?

Further investigation is necessary to determine just what part the calcium and phosphorus blood content plays in the union of fractures—to confirm or elaborate the work already presented. A sufficiently high calcium and phosphorus is probably not the only factor. They must not only be present in sufficient concentration, but there must be, as Tisdall and Harris suggest, the faculty or ability to use them at the seat of fracture. Dr. W. J. Mayo,[6] in discussing the function of the spleen, states that Carrell speaks of the lymphocyte as the carrier of the necessities of life to the fixed connective-tissue cell, and points out that repair of injured tissue depends on the lymphocyte. Schoenbauer and Steinberg[10] have found that transplantation of the spleen—the mother of lymphocytes—in normal rats, caused a more rapid callus formation in fractured bone. Splenic extracts may eventually be shown to stimulate this local reaction.

Conclusions

(1) Inadequate reduction of the fragments and insufficient circulation at the seat of fracture play the major fundamental rôle in the production of delayed union and nonunion. (2) Open fracture, with its opportunity for infection, and syphilis also, are important causes in delaying and preventing union. (3) As calcium—probably in the form of calcium phosphate and calcium carbonate—is deposited in the formation of new bone, low calcium and phosphorus content of the blood, or at the fractured area, lack of the metabolic reaction necessary to abstract calcium or phosphorus *from* the blood, may likewise delay or prevent bony union. (4) The incidence of delayed union and nonunion as a result of deficient calcium and phosphorus metabolism in adults is apparently not high; it is to be anticipated especially in rachitic children.

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ABSTRACT OF DISCUSSION

OF SYMPOSIUM ON FRACTURES

JOHN H. JOPSON, M.D. (PHILADELPHIA, PA.): In our community we have derived great benefit from the sectional meetings of the National Committee on Fractures, which has now been taken under the wing of the College of Surgeons.

There is no doubt that a fracture is never harmed by early reduction, and that the functional result itself depends in a measure on anatomical alignment. There are certain bones in which early complete reduction is essential, such as fractures of the hip, forearm, wrist, ankle, and perhaps of the tibia and fibula. Fractures of the other long bones are also capable at certain times of early complete reduction under general or local anesthesia, and they also permit of reduction by skeletal traction or glued traction by adhesive straps. The disadvantage of immediate reduction is that often fixed dressings are necessary for the immobilization of the part, causing in three to six weeks a gluing together of the tendons and muscles, due to the organization of the blood and lymph present as exudate. This results in long-continued stiffness, with the necessity of after-treatment by massage and physiotherapy. If, therefore, a method can be used which will allow of gradual reduction by skeletal or glued traction, and permit of early functional use of the joints, so much the better, because by such means the period of disability will be shortened.

Mr. J. W. Dowden, of Edinburgh, has done some interesting work along this line, and his views are extraordinarily radical. He discards practically all splints for fractures of the upper extremities, except for the first few days in certain fractures such as the shaft of the humerus, and then uses them only at night. His method is applicable in the main to the upper extremities where function rather than alignment is most important. He points out that if the limb is kept in fixation for any length of time, atrophy results in the bone, and adhesions in and around muscles and tendons. Therefore, disregarding altogether the question of immediate reduction, in a fracture of the humerus, for example, he allows the patient to carry it in a sling suspended from the forearm, and the patient is encouraged to put into execution several times a day practically all the movements of which the arm is capable, always short of actual pain, using the same principle as we now use of active mobilization of infected joints. Active mobilization, of course, is better than passive. By this method, while there may be some deformity at first, it does not interfere with complete function, and x-rays taken from one to five years later show an astounding degree of restitution of anatomical alignment and disappearance of deformity.

JOHN B. LOWMAN, M.D. (JOHNSTOWN, PA.): I firmly believe that the earlier the reduction is accomplished the better will be the functional results obtained. As to the after treatment, the main point is the improved methods of splinting, for so many fractures that were improperly splinted are followed by ankylosed joints, poor circulation, etc. Another important point is early massage and physiotherapy in order to improve the functional results.

Especially in patients beyond the age of forty, blood-sugar tests in fracture cases are important. In two cases of delayed union, there was a very high blood sugar, although urinalysis was negative for sugar. Both these patients were put on a diet, and recovery was expedited and perfect union secured. This point is worth investigating, but what will come of it I am unable to say at present.

Three Case Reports*

A STRIKING RESULT FROM THE INTRAVENOUS USE OF MERCUROCHROME

J. D. DENNY, M.D.
COLUMBIA, PA.

In the case of Richard G., aged 5, the chief complaint was pain and swelling of the right periauricular region. The past history included acute otitis media at 2½ years of age, followed by mastoiditis and mastoidectomy with long drainage and very slow recovery. Surgery was again employed for the relief of submaxillary adenitis at 3 years, with long-continued drainage. There was a persistent recurrent otorrhea, and frequent acute tonsillitis. The general health was always below par. All the local symptoms had been right-sided, and right-sided facial palsy had followed the mastoiditis.

I first saw this child at his home on January 6, 1925. An acute otitis with purulent discharge was present on the unoperated left side, and there was a diffuse red swelling of the right periauricular region, with a thin serous otorrhea. The child was very toxic, and suffered severe pain on both sides, but especially on the right. The temperature was 103.4°, pulse 124, and respiration 36. Gentle irrigation of both ears with a 10-per-cent neosilvol solution was employed. External heat and analgesics were the only other measures. The unoperated mastoid process was tender. On consultation with an otologist, surgical intervention on either side was deemed inadvisable, owing to the serious condition of the patient and the lack of definite localization.

The child was removed to the Columbia Hospital on January 9th. On admission, the temperature was 102°, pulse 130, respiration 36.

*Read before the Section on Surgery of the Medical Society of the State of Pennsylvania, Harrisburg Session, October 8, 1925.

The urinalysis was negative except for a trace of albumin. Blood count: hemoglobin 80 per cent, white blood corpuscles 8,900, polymorphonuclears 81 per cent, small lymphocytes 10 per cent, and large lymphocytes 9 per cent. Treatment included ichthyol dressing of the periauricular swelling, alkaline enemas, and small doses of laudanum for pain. The only improvement shown was a temporary fall of 2 degrees in temperature.

On the fifth day of the infection, the periauricular area on the right side was intensely red and edematous, extending to the cheek and submaxillary tissues. The child was markedly toxic and stuporous, with signs of cerebral irritation. A large dose of a stock mixed vaccine of Staphylococci and Streptococci was given, with the temperature at 102° and the pulse 90. There was an intense reaction in two hours, the temperature rising to 104.4° and the pulse to 120, followed by a critical fall to 99° and a general amelioration of subjective symptoms, although the area of inflammation remained about the same. Blood culture was positive to Staphylococcus aureus.

The fever, however, rose again in three days to 105°, reaching 106° the night of the third day. When the temperature fell to 103.4°, 3 milligrams of mercurochrome—220 soluble were given intravenously. Almost immediately, there was a three-degree rise in temperature and a critical drop to the base line which was accompanied by a rather rapid disappearance of the inflammatory symptoms about the right ear, and a cessation of the otorrhea. Following the mercurochrome injection there was a leukocytosis of 16,400, with 91 per cent of polymorphonuclears.

This case illustrates a point which I believe to be very important in making deductions about the efficacy of any supposed specific or antiseptic introduced into the blood stream. Had only the mercurochrome been used, we should have concluded that its specific bactericidal action brought about the subsidence of the infection. But note that an almost similar reaction and improvement followed administration of the vaccine, although not permanent. We must not be too quick to jump at conclusions regarding the action of any substance introduced into the blood stream for therapeutic results. Without careful study of many cases, we have no method of determining whether results such as were obtained in this case are not due simply to a stimulation of opsonins or other antibodies by the introduction of a foreign substance. The marked leukocytic increase would tend to bear out this hypothesis. Chemotherapy where definite specificity of the drug has been proved is a different matter, but it is not well to be certain that the blood stream can be sterilized unless much clinical evidence is produced to bear it out. In such a case as this, it is highly doubtful as to what action is involved in the clearing up of the condition.

30 S. Second Street.

TRAUMATIC DIAPHRAGMATIC HERNIA

LEVER F. STEWART, M.D.
CLEARFIELD, PA.

On June 22, 1923, a white man, aged 28, struck a slow-moving freight train, broadside, while riding in a high-powered automobile going at a great rate of speed. He was thrown from the car, and immediately was brought to the hospital, where physical examination showed moderate shock and extreme tenderness over the lower ribs on the left, accompanied by tenderness and rigidity of the muscles of the left upper abdomen. There was considerable tenderness and increase in muscle rigidity in the left kidney area.

The man was unable to void, and catheterization brought forth fresh blood. Injection of boric-acid solution brought back the same quantity introduced, and the bladder was pronounced competent. It was judged there was a rupture of the urethra. A permanent catheter was introduced, and removed four days later when the urine was no longer blood stained. There was pain, tenderness, and disability in the right ankle, especially above the tip of the external malleolus. The x-ray at this time showed fracture of the seventh, ninth, and twelfth ribs on the left, the seventh rib being separated from the spine, as well as showing fracture at the posterior axillary line. The ninth rib showed fracture in the posterior axillary line, with no displacement. The twelfth rib showed fracture three inches from the spine. X-ray of the right ankle showed fracture involving the anterior cortex of the fibula, 1½ inches from the external malleolus. There was no displacement.

This man suffered extreme discomfort in the region of the rib fractures. However, this ceased after several weeks, and on July 11, 1923, he was discharged from the hospital, walking with the aid of crutches. Recovery after this was quite rapid, and in about six weeks from the time of discharge the patient had resumed his work.

From time to time he presented himself at my office complaining of extreme distress in the upper left abdomen. At first, this condition responded to the administration of salol and a course of calomel. Later, these attacks of pain,

sometimes accompanied by vomiting, became more frequent and severe, and more difficult to affect by treatment. On several occasions morphin was administered, and was followed in a short time by a gurgling of gas which gave relief.

On March 1 and 2, 1924, the patient at my suggestion sought a complete investigation of his genito-urinary and intestinal tracts. His roentgenologist reported no evidence of stone. He described the stomach as showing the greater curvature two inches below the intercrestal line. The stomach was empty 1½ hours after a barium meal. A second meal showed normal peristalsis and emptying time. The duodeum was normal. At six hours, the head of the meal appeared at the hepatic flexure, about half of the meal remaining in the lower ileum. The colon showed moderate ptosis of the transverse portion, due to dropped hepatic flexure.

On May 6, 1924, the patient again came to me in greater distress than at any time previously. His physical examination was practically negative. The tympany noted in the region of the cardiac end of the stomach seemed about normal. The tenderness and distress seemed lower than the stomach. At first, there were no pulmonary symptoms. The diagnosis was obscure. Finally, a diagnosis of obstruction of the bowel was made. There was but little distention, but it was impossible to get gas through the intestinal tract by the use of enemas and pituitrin. At this time, the patient developed a high-pitched, unproductive cough, clearly a mechanical cough. The sound was extremely high-pitched. There was no increase in peristalsis, and rectal examination showed a moderate relaxation of the rectum. My feeling was that at the time of the original injury there might have been sufficient traumatism or tearing in the region of the left kidney to cause the formation of adhesions which were acting to cause partial obstruction and a moderate paresis of the bowel. Previous x-rays and his acute condition dismissed the thought of further x-ray investigation.

On May 8, 1924, an upper right-rectus incision was made. The stomach and intestines appeared normal. They were moderately distended, and the appendix was sought as a possible source of upper abdominal distress. It was pale, injected, and somewhat indurated. It was removed after the method of Dawborn. The lurking suspicion of injury in the upper left quadrant led to an extensive, detailed search here, resulting in feeling, but not seeing, a portion of the cardia of the stomach merging from the abdominal cavity through the diaphragm within three centimeters of the margin of the ribs. The opening was longitudinal, and about 3½ centimeters in length. Reduction of the stomach was most difficult, because it was adherent to the chest wall. Reduction was accomplished, however, without hemorrhage or injury to the stomach. The diaphragm was then sutured with No. 2, 20-day chromic catgut. This proved to be a most difficult task, on account of the location of the opening. It required enlargement of the incision and extensive retraction. It was extremely difficult to keep the abdominal contents away from the opening, and the amount of diaphragm tissue remaining between the opening and the rib margin was so small as not only to make the suturing very difficult, but when approximation was attempted the tissue tore. Finally, an approximation that was not air-tight was secured. Then some of the gastrosplenic omentum was attached to the line of suture in order to insure its being sealed from the pleural cavity.

The patient was on the table for almost two hours. He left the table in excellent condition. Twenty-four hours later he showed marked symptoms of cardiac embarrassment. The left chest became tympanitic. The abdomen remained normal. The patient passed gas and took liquids without distress. The chest was aspirated and some air released. This did not improve the cardiac condition, and the patient died.

This man is the eighth of a series of injuries involving abdomen, diaphram, and chest, and accompanied by hernia of abdominal contents, upon which I have operated. It represents the second death in the series. The other seven cases came to the operating table within 48 hours of the time of injury. Not one of them was in as good condition for operation as this man. Six recovered, and they were all done through a combination of abdominal and chest incision, or chest incision alone. In the seventh, I did splenectomy through a thoracic incision following a gunshot wound. It was not a difficult operation. The patient died while being sewed up. The death was cardiac. In none of these patients did I have the difficulty encountered in the case reported. They sometimes taxed ingenuity in getting proper apposition of anatomical planes, but were never difficult. The case reported was extremely difficult. Had the existence of hernia through the diaphram been appreciated, a transpleural approach could have been made with less risk than the procedure carried out, and with greater ease of accomplishment. A transthoracic approach gives easier work and lower mortality.

It is quite possible that the barium meal would not enter the portion of the stomach lying within the chest unless the patient was in a recumbent position, and unless considerable manipulation was done. The presence of an air bubble seen

by fluoroscope above the dome of the diaphram would appear to be the best sign upon which to count in making a preoperative diagnosis of this condition. Rupture of the diaphram through a portion not congenitally weak would seem to be very rare; however, lesions of the diaphram permitting hernia are sufficiently common to arrest the attention of present-day surgeons. Today, one not infrequently sees reports of isolated cases. These lesions of the diaphram may explain certain obscure and undiagnosed upper-abdominal conditions. My own experience in locating this hernia may challenge the utmost care on the part of the surgeon. Obviously, hernia of the cardiac end of the stomach is not easily visualized.

The chief reason for presenting this report is to accentuate the desirability of approaching the diaphragm through the chest; to emphasize the need of the utmost care in x-ray diagnosis; and to call attention to the more or less frequent occurrence of this condition. I have not previously seen a reference to cough in association with diaphragmatic hernia, but feel very strongly that the cough this patient developed was very definitely the result of irritation of the diaphragm, and it should probably be accorded the same place among the symptoms of diaphragmatic hernia that is accorded cough in subdiaphragmatic abscess.

MASSIVE INTERSIGMOID HERNIA

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ERIE, PA.

Herniation of the bowel through the mesosigmoid is a rare condition, judging by the small number of cases reported. That it is serious is proved by the fact that most of these cases are undiagnosed and discovered only at autopsy. The following case occurred on the surgical service of St. Vincent's Hospital.

November 11, 1924, a male, aged 20 years, was admitted to St. Vincent's Hospital at 8 p. m. He was in extreme shock, and suffering severe abdominal pain, nausea, and marked tenesmus.

His illness began at 3 a. m., November 11th, after a few drinks of moonshine whiskey. The onset was sudden, with very severe abdominal pain, nausea, and vomiting. At 4 a. m., of his own volition he went to one of the hospitals, where his stomach was washed out and castor oil given through the tube. His condition, no doubt, was presumed to be due to bad whiskey, as he was discharged at 8: 30 a. m. At this stage of his illness, had a correct diagnosis been made, possibly his life could have been saved by timely surgical intervention. His condition continued progressively worse, and a physician whom he finally called sent him to St. Vincent's Hospital at 8 p. m., just seventeen hours following the onset.

The young man was in evident distress, having the appearance of critical shock, with knees flexed, and groaning with pain. His color was ashen, and beads of perspiration stood on the forehead. The pupils, mouth, and throat were negative. The heart and lungs were negative. The abdomen was not markedly rigid or distended, but of a doughy feeling over the lower half, and slightly more tender over the right lower quadrant than elsewhere. On percussion, most of the abdomen was dull, with dullness more pronounced in the bladder region. The use of a catheter, however, produced only a dram or two of normal appearing urine, which was not examined. On auscultation, the abdomen was silent (Deaver's silent abdomen). The temperature by axilla was 97.4, the pulse 100, white cells 15,000, polys. 87 per cent, small lymphocytes 10 per cent, large lymphocytes 3 per cent.

The provisional diagnosis was ruptured appendiceal abscess or perforated intestinal ulcer. Operation was decided upon, and after 500 c.c. of glucose and saline solution intravenously, was proceeded with at once.

Under novocain, gas, and ether, a right-rectus incision was made. When the peritoneum was opened, a quantity of clear, bloody serum escaped, and knuckles of black small bowel presented. The incision was enlarged, and a quick examination revealed that all of the small bowel and portions of the large bowel were gangrenous. The location of the lesion was found only after considerable searching and handling of the intestines. The normal appearing cecum, terminal ileum, and appendix were stretched taut, and with the tip of the appendix, were found engaged in a defect in the mesosigmoid. The proximal jejunum was then located and appeared to be normal, but it too was stretched taut and downwards to about the same level as the ileum and appendix, and was lost in a mass of tightly packed intestines on the left of the mesosigmoid. With the terminal ileum as guide, I was able to force the tip of my left index finger under a definite defect at the root of the mesosigmoid and to enlarge carefully the constricting edge of the opening. The colon, sigmoid, and various coils of the small bowel were then released, and many white circular rings showed where the bowel had been strangulated.

Resection was not possible, as all of the small intestine and a large part of the descending colon and sigmoid were gangrenous. A No.-24 catheter was anchored into the jejunum according to

the Mayo method, and the incision closed. Death occurred at 2 a. m.

Autopsy confirmed the operative findings. It seemed that the sigmoid had rolled over to enter the ring from the right, but whether it followed the small bowel through, I am unable to say. Its position was beneath the mass of small intestines, and not in contact with the constricting ring.

The portions of the bowel involved and strangulated were all of the ileum except the terminal three inches, all of the jejunum except the proximal eight inches, the lower half of the descending colon, and almost all of the sigmoid. This case, therefore, might properly be called one of massive intersigmoid hernia.

The conclusions to be drawn are: (1) the grave concern with which any case of sudden abdominal pain with nausea, vomiting, tenesmus, and shock should be treated; (2) the importance of early diagnosis and operation.

110 West Ninth Street.

OUR RESPONSIBILITY TO THOSE IN DARKNESS

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A casual stroll through our busy marts brings us in contact with not a few blind mendicants and beggars. Many of these are case-hardened individuals, completely callous to society in general, and indifferent to the sympathetic passers-by that drop a coin or two into their outstretched tin cups. They are out for alms only, and very often collect in a day more than a fair-sized day's wage. But say what we will regarding their purpose, their indifference, their bitterness towards the rest of humanity, they are in darkness —many in complete, irremediable darkness.

When Javal, the designer of the ophthalmological instrument bearing his name, was losing his sight, he wrote an admirable little book giving advice to those losing their sight and those already blind. How many of us have read it? Did we not pass it by, by reason of a feeling of repugnance to such a terrible affliction rather than by reason of indifference to this awful calamity? The very thought of the possibility of such disaster overtaking us, has driven us away from a proper consideration of the affliction. Doubtless we have so done, and thereby have we increased the number, already large, of those that care not who goes blind, just so long as they are not included.

Our responsibility begins with prevention and never ends, although it assumes a different form when darkness has already supervened. By a strange quip of fate, this responsibility begins in infancy. The influence of venereal disease in the production of blindness in infancy has received attention from many sources, but the message seldom reaches the principal actors in the tragedy. Is it any wonder that these blind children, having become blind adults, and having received a measure of education, regard society in general with disdain and downright animosity!

A degree of impairment of sight in children, which ultimately affects the earning capacity of the adult, frequently results from corneal ulcers that have an innocent origin, being due in many instances to errors of nutrition. These subjects, strange to relate, seem able to work out their own salvation, although greatly handicapped. A more intensive program in the treatment and care of these cases would reduce their incidence to a marked degree.

The congenital defects, so far as we are able to ascribe them to any particular cause or causes, engage more attention, but, as many of these subjects have never seen, what they miss is not so great a hardship. Fortunately, means are available, although scarcely adequate, for the care and training of these. An elaborate survey of so large a territory as the Commonwealth of Pennsylvania covers, would bring to our notice hundreds that are deprived of the opportunities of the school at Overbrook, for instance. It should be the duty of every physician in the state to report to the proper authorities every one of these congenital defects before school age, not for the purpose of quarantine or statistics, but from a philanthropic standpoint, that they may be given the advantages that the State is willing to give. It is thought that the compulsory-education law covers this situation, but it does not do so completely. One blind child overlooked is the equivalent of one hundred children with vision. This would entail expansion of the facilities now dedicated to this work, but education of the assemblymen would no doubt effect this extra support.

Have you ever given serious consideration to the cost of educating a child with normal vision, and then contrasting it with that of the child unable to see? The difference is appalling. But what of the competition of the uneducated blind child with the educated possessing good vision, in the struggle for a decent existence? Society or the State is compelled to support the failures. Which is the better? We must urge that every blind child be given the advantage of special training. It is the physician's obligation to see that they are properly catalogued.

Blindness sustained in the routine of the industries is made less of a financial hardship by reason of the Workmen's Compensation Act, but should it be complete and total, we are

brought face to face with a most awful condition. Such a workman cannot get work. Should he be a craftsman such as could do work in his own shop, he has some occupation that would lighten his sorrow by the mental interest it entails. But usually such is not the case. The suddenness of the calamity leaves him completely lost. The Braille system is seldom grasped by such patients, although to the young and otherwise untrained it opens up a world of information. The Moon system of embossed type is best acquired by such individuals.

Reading of the accomplishments of the Pennsylvania Society for the Home Teaching of the Blind, one might gain the impression that they were easily brought about. They are not! The teachers meet with many discouragements. Persons past school age are seldom good pupils at any time, but in the case of these blind persons, and even with this, the only means of maintaining communication with the outside world, as a stimulation, they soon tire of the work and find means of evading it after a while. The teachers are few, but of the best. Our own Mr. Delphino, himself with no vision, sensing the handicaps of these pupils, works with a patience and endurance that receives our frank admiration. How many unoccupied men and women reading this could lay aside some of the frivolities of the day for a time, and take a hand in this wonderful work, and yet they do not. In the course of the late war, the glamour of the strife enthused some to take part, but this has passed away. It is someone's else responsibility.

To the ophthalmologist, the patient well on in years and going on to progressive blindness from one of the incurable types of glaucoma, optic atrophy, retinal disease, or other form of ocular disease is by no means commonplace, although friends of the patient, as well as the patient, may regard him as the most callous of individuals. What is the extent of his responsibility, when the diagnosis has been made? He is expected to shoulder it, although the patients and friends alike go from one practitioner to the other until all have been reached, regular and irregular, and the funds exhausted. What can the conscientious ophthalmologist do? He is expected to cure, and cure being unavailable, what next? The sympathetic man feels his limitations, and appreciates the poignancy of the situation.

The radio has opened up a line of entertainment and instruction for those whose sight has been lost; but after all, this is only entertainment. Some means should be found to enable these individuals to engage in some lucrative occupation.

Perhaps a little stronger effort towards the education of the public, towards the danger of consulting quacks in the early stages of these affections, might bring the subjects to the attention of the more skilled while relief is yet obtainable, but there are still a large percentage that are irremediable from the very start, do what we may. Education ot the public along the lines of what channels are open to the blind is always in order. It will go far towards a forbearance for those whose life is doomed to darkness.

One might comment that the public is already dazed with the education now necessary in the domain of the radio, the automobile, etc., but when the same public can find time to digest the rubbish circulated with great profit concerning the different cults and health fads, we feel that this addition would be no great hardship.

It seems incumbent upon the medical profession to urge a greater appreciation on the part of the public of their responsibilities, not only in the prevention but in the care of the blind, for after all we are in truth the keepers of our less fortunate brethren. A good showing has been made by the profession in ophthalmia neonatorum, but when we realize that the lay public could eliminate this almost entirely, we sense the great handicap which confronts us. In this day and age, there should be no such condition, but the millennium will doubtless include statistics on this form of blindness.

The conditions contributing to the comparative failure of propaganda to the laity regarding this condition do not exist in connection with other forms of blindness. Therefore, we should urge greater activity among all classes of society towards their prevention and cure. In trachoma, for instance, we find as much time wasted in determining who shall handle the cases as is utilized in handling them. The recent accomplishments by the Indian Bureau in this direction may be cited as an example of what concerted movement may do. The discarding of protective goggles by workmen at the emery wheels is still a source of deepseated discouragement to those interested in the conservation of vision, on the other hand. It is certainly not exactly creditable to the medical profession that the greatest publicity on this latter phase of the situation has come from the lay press and others having a direct commercial interest in the matter.

In Victor Hugo's *Hunchback of Notre Dame,* one's morbid interest may be engaged by the band that effect deformities for the purpose of seeking alms. Scarcely any one has missed that or failed to remember it, but we fail to produce any lasting impression with our sorrowful tales. *Damaged Goods* merely left a bad taste. It is still possible in a conservative way to bring about an appreciation of just what we can do to prevent

and how we can care for those about whom the veil of total darkness is completely drawn. It is the purpose of this article to urge greater activity upon the part of the profession, since greater knowledge is theirs in this connection, and of those that know more, more is expected.

REVAMPING DENTAL EDUCATION

At a meeting of the Dental Educational Council of America, held in Chicago, June 2 and 3, 1926, the Council endorsed the general conclusions on dental education in the Twentieth Annual Report of the President of the Carnegie Foundation for the Advancement of Teaching, and commends them to all concerned as practical solutions of many of the problems which have engaged the attention of dentistry since its inception. Moreover, the Council regards the statements embodied in the general conclusions as a manifestation of a cordial and most sympathetic interest in dentistry as a useful form of health service. The Council also endorses the section on dental education of the same report, which reads as follows: "The most important problem immediately ahead, on this route of progress in professional education, is the radical improvement in universities of inferior dental schools that have been given indifferent attention and which have been conducted, like proprietary schools, as agencies for financial profit." The general conclusions on the study of dental education referred to are as follows:

Dentistry is an important mode of health service that is related directly to the teeth and closely adjacent oral tissues, and indirectly to other parts of the body and to the organism in general.

Dentistry should be made the full equivalent of an oral specialty of the practice of medicine in the quality and efficiency of its service to the patient.

The unusual mechanical and esthetic demands upon dentistry have, however, fully justified and continue to require its active development as a separately organized profession.

The long-continued indifference of medicine to the abnormalities and diseases of the teeth and oral tissues suggests that, if dentistry were called stomatology and added to medicine, oral-health service would continue to be neglected by the medical profession.

The success with which dentists have brought dentistry to its present state of usefulness and opportunity, in the face of social disparagement and professional belittlement, and the strength of the evolution plainly in progress, indicate unmistakably that the leadership of the dental profession will develop dentistry to its full possibilities in health service.

Dentistry can be effectually and economically developed to the full service equivalence of an oral specialty of the practice of medicine through extension and improvement, in universities, of that system of dental education which, though separate from medical education, is closely related to it and should be more intimately associated with it.

This extension and improvement could be accomplished without requiring the prospective general practitioner of dentistry to become a doctor of medicine before beginning his dental training, and could best be brought about by pursuit of the following three main objectives: (a) the preliminary education and the instruction in the medical sciences should be the same in general scope and quality as for medicine; (b) the technical training, the applications of the medical sciences, and the correlations with clinical medicine should be sufficient to assure both ability to initiate safely a dependable general practice of dentistry and capacity to grow in proficiency; and (c) the most difficult phases of dental practice should be reserved for systematic graduate study.

These three objectives could be attained through the requirement of (a) at least two years of approved work in an accredited academic college, including several courses that would stimulate interest and develop ability in the prospective practice of dentistry, or reveal ineptitude, (b) and three years of intensive and well-integrated effort in an undergraduate dental curriculum for the training of general practitioners only, some or all of the years to be suitably lengthened wherever desirable to meet special local requirements; followed by (c) optional supplementary full-year graduate curricula for advanced training in all types of dental and oral specialization.

Such a reorganization would place physicians and dentists on the same plane of intellectual quality, and would give them analogous types of health-service education. It would develop similar degrees of medical comprehension, ensure mutual respect and understanding, and facilitate intimate coöperation in the promotion of the welfare of their patients.

This general improvement in dental education would require reconstruction of the dental curriculum, with special reference to important betterment of the teaching in all of its phases, economy of time without impairment of the efficiency of instruction in dental technology, more useful application of the medical sciences, and more advantageous correlation of clinical dentistry with clinical medicine.

The proposed regeneration of dental education would necessitate, in practically all of the dental schools, prompt increase in the number of teachers of the best type, great improvement of the libraries, and active advancement of research.

Lacking endowments, and in most cases being obliged to keep the quality of their work to the level of their income from fees, the dental schools in this country and in Canada will be unable to proceed with the suggested improvements unless, individually, they receive large gifts of funds for this purpose.

THE NARCOTIC LAW

The attention of the medical profession is called to the Smoot Narcotic Bill which was introduced into Congress, April, 1926.

A recent publication states that it is time to "stop putting false teeth in our narcotic laws."

The *Journal of The American Medical Association*, May 8, 1926, published a long and scathing review of the bill. It says: "State medical associations, county medical societies, and physicians may well communicate their views with respect to this bill to the President, the Secretary of the Treasury, the Committee on Finance of the Senate, and the Committee on Ways and Means of the House of Representatives, and to their respective senators and representatives."

It has been suggested that individual members of the profession write the members of the Committee of the U. S. Senate and get busy with local legislators and congressmen. "Too much arbitrary power is given to collectors" (of Federal revenue).

The White Cross International Antinarcotics Society, with headquarters at Seattle, Washington, is convinced that "narcotic addicts are sick people who need the care of physicians like other sick people." The following resolution was adopted by this organization on July 14, 1926: "Whereas, there was introduced in the Senate of the United States on April 19, 1926, a bill (S. 4085) to strengthen the Harrison Act of December 17, 1914, as amended; and whereas, it would seem desirable for the Congress of the United States, in connection with the consideration of such proposed amendatory legisla-

tion, and before any new legislation is enacted, to review the field of narcotic regulation with a view to adopting legislation which will conform the regulation of such trade to the situation as developed by such an investigation; now therefore be it resolved that the White Cross, Inc., request Honorable Reed Smoot, a member of the Senate, and Honorable Stephen G. Porter, a member of the House, to obtain a federal investigation, by a committee to be appointed for that purpose, of the narcotic situation in this country, with a view to obtaining a better understanding of the narcotic evil, and the adoption of such legislation as such an investigation will suggest."

The National Association of Retail Druggists says "they are in thorough accord with the White Cross, and feel sure that the American Medical Association will sympathize with the resolution they have adopted against the Smoot Bill, and will exert its very best efforts to the same end."

It is most unfortunate that the administration of the Harrison Narcotic Act is placed under the Treasury Department, which Revenue Bureau "lest its unwarranted power should slip away, has now come out openly and introduced these new bills." It is of interest to note that some of the regulations adopted by the Revenue Bureau have been declared unconstitutional by the United States Supreme Court.

If the Smoot Bill is passed by Congress, it will (1) "Further trespass directly upon the personal, confidential relation of doctor to patient, and upon a dozen other inherent rights of the medical profession, making the falseness of the proposed denture immediately and painfully clear." (2) Should a physician applying for registration under the Harrison Act be accused of being an addict, collectors of internal revenue would not approve the application. The collector, who is not a physician, would be permitted to pass upon the status of the applicant in this regard, which really should be passed upon by medical men. (3) A pharmacist would not be allowed to fill a prescription containing narcotic drugs, if he had any reason to believe it was not written in good faith by the physician. This surely gives unlimited arbitrary power to the druggist. It is of interest to note that the National Association of Retail Druggists is opposed to the bill. (4) It further makes mandatory the paper work required of physicians, in recording all narcotics dispensed. (5) It would force all addicts to institutional care for treatment, the physician no longer being permitted to treat ambulatory cases. (6) Should any physician be convicted of violating the Harrison Act in any particular, the penalty would be refusal of registration for two years.

We cannot urge too strongly every physician to follow the suggestion made by the American Medical Association, as given at the beginning of this article.

STATE BOARD QUESTIONS IN CHIROPRACTIC

Our membership no doubt will be interested in reading the following questions given in Chiropractic at a recent meeting of the State Board of Medical Examiners of West Virginia:

Chiropractic philosophy and practice.—(1) What vertebræ have peculiar names? (2) Differentiate between curve and curvature. (3) Name the important steps in preparing a case record. (4) Is vertebral subluxation the sole cause of nerve pressure? Explain. (5) What is a specific adjustment? (6) Can a subluxation ever be reduced with one adjustment? (7) What segments of the cord innervate the stomach? (8) What portion of the vertebræ would you use as a lever in a rotatory scoliosis? (9) What are the chief factors involved in giving a correct adjustment? (10) What is necessary for correct palpation? (11) Why is the third cervical hard to palpate? (12) Which is the weakest portion of the spine?

Chiropractic analysis.—(1) Name five acute infectious diseases of childhood and give chiropractic prognosis in each. (2) Make a diagnosis of chorea. (3) What is the chiropractic prognosis in the following: paralysis agitans, tic douloreux, cerebral abscess, hydrocephalus, influenza? (4) Define angina pectoris. (5) What bone changes take place in rickets? (6) Define menorrhagia. (7) When is amenorrhea present physiologically (8) What do you understand by vicarious menstruation? (9) What are some of the symptoms of uterine cancer? (10) Name ten pathologic conditions which cannot be effectively dealt with by chiropractic. (It is of interest to note that the examiners admit there are ten conditions not curable by chiropractic.—EDITOR.) (11) Make a diagnosis of renal calculus. (12) Make a diagnosis of acute laryngitis. Answer ten questions.

Adjusting.—(1) What is the first essential requirement for both the patient and adjuster in giving a successful adjustment? (2) What is meant by point of contact, when referring to a chiropractic adjustment? (3) At what point would you adjust, attempting to correct a given curvature? (4) Describe the procedure when adjusting a coccyx with an anterior subluxation. (5) Describe a typical cervical dorsal and lumbar vertebra. (6) Describe an adult sacrum. With what does it articulate? Name the articulations. (7) Name three points of contact which may be taken adjusting a lumbar vertebra. (8) Assuming a patient refusing to give history of case, or give any symptoms, give in full your procedure in palpating and adjusting such a case. (It would be interesting to read the replies to this question. Why would a patient seek treatment and refuse to give this information?—EDITOR.) (9) You have a seventh dorsal subluxated to the left and inferior. From what and toward what direction would you adjust. (10) Name four articulations in the spinal column.

Palpation and nerve tracing.—(1) What is the purpose of nerve tracing? What may be determined by tracing a tender spinal nerve? (2) Describe a kyphosis, lordosis, scoliosis, rotation. (3) How would you determine an ankylosed condition in the spine? (4) What is the difference between a subluxation and a luxation? (5) Do any spinal nerves have direct connection with any vital organs of the body? If so, name the organ or organs? (6) In how many directions may a coccyx be subluxated? (7) What is the difference between a spinal curve and a curvature? (8) Classify the movable segments in a normal human spine. How many segments in a normal human spine. How many segments in each section? (9) In what particular does the axis differ from all other vertebræ? (10) What is the difference between the normal adult sacrum and the normal infant sacrum? (11) Over what nerve are mental impulses transmitted to the heart and lungs? (12) Designate by letters the directions in which a dorsal vertebra may be subluxated. Answer ten questions.

TEETH AND HEALTH

The importance of diseases of the teeth and oral cavity in their effects upon the general system, must be realized. Pyorrhea, dead pulps, and dental caries are among the most dangerous forms of disease in their influence in establishing new foci of disease in distant organs and tissues of the body. Even vital pulps, if inflamed, may be the focal point of a secondary infection. Dentists and physicians are urged to work together to throw light upon this matter.

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EDITORIALS

THE ANNUAL SESSION

The clarion call has been resounding through the hills and valleys of our State for the Seventy-Sixth Annual Session of the Medical Society of the State of Pennsylvania, to be held in Philadelphia, October 11 to 14, 1926.

Plan now to be in Philadelphia at that time. Your Committee on Scientific Program has been untiring in its efforts to make the coming meeting our best.

To progress we must surpass. It devolves upon you, as practitioners of this State to attend the meetings of your State Society for your own enlightenment, for the benefit of your patients, and for mutual progress. You are morally and professionally obligated to make a success of your State Society and its annual session. The usual Quaker City hospitality assures you a most hearty welcome. The local Committee on Entertainment has discontinued the practice of Medicine, in order to provide ways and means for your entertainment. The Woman's Auxiliary is up and doing to assure the women visitors a royal time.

The Sesqui-Centennial also should attract you. Attend the Society meeting and then remain over to pay your homage to the Sesqui. Or take in the Sesqui first, and then settle down to the annual session. All the points of historical interest in and about Philadelphia are assuming a different significance during the Sesqui celebration. The trip to Valley Forge alone should be more than appealing to you. As Cyrus Townsend Brady truly said, "No spot on earth—not the plains of Marathon, nor the passes of Sembach, nor the place of the Bastile, nor the dykes of Holland, nor the moors of England—is so sacred in the history of the struggle for human liberty as Valley Forge."

A Chinese sage said, "Be not proud of your learning. There is always more to learn." That is the keynote of every organization of this kind where men get together. If you do not keep that in mind, you are quite soon a back number.

As usual, there will be guests of national reputation who will participate in our scientific discussions. The subjects that will be discussed by these distinguished men are of vital, present-day interest, and of practical application in the daily work of every doctor. Certainly no member can afford to miss the Philadelphia meeting, the most excellent and practical program, and the Sesqui-Centennial celebration.

THE PHYSICIAN'S LEGAL RESPONSIBILITY IN TREATMENT OF FRACTURES

The symposium on fractures in this number of the JOURNAL prompts a consideration of the question of suits for malpractice, which subconsciously prods us on to leave no stone unturned in diagnosis and treatment.

The responsibility of attendance upon patients with fractures would seem to increase yearly. It is a moot question as to which class of fractures the general practitioner may attend, and which he should refer to confreres more skilled in their management. An important decision frequently required to be made is: which cases may be treated at home, and which should be hospitalized?

At this juncture, we would remind the members of our State Society of the requirements when in attendance upon cases of fractures, suspected or apparent, and dislocations, so far as they bear on medical defense. It is requisite (1) that x-ray plates (preferably from two planes) be taken before setting the fracture or

reducing the dislocation, (2) that a similar examination be made immediately after reduction, and (3) that a third x-ray examination be made before the patient is discharged, in order to determine the end result. Should a patient refuse to have an x-ray taken, the physician should request the patient to sign a release absolving him from any responsibility as to results, or decline to accept the case.

The secretary of our State Medical Society has endeavored to bring to the attention of our membership the necessity for insisting upon x-ray plates in all cases of suspected fracture, dislocation, or foreign body, before and after treatment, by distribution through the secretaries of the county medical societies of x-ray release blanks, which were furnished to the various county societies in proportion to their membership. Publicity also was given on this subject through the various county society publications, councilors of the State Society, and secretaries of the component county societies, with the request that notices be read at two successive meetings. Our membership is thus again reminded of this procedure, which is required in all cases where aid is sought for medical defense. These release blanks cover the subjects of suspected fractures, dislocations, and the presence of foreign bodies, and constitute a form prepared in 1925 by the Medical Society of the State of Pennsylvania.

On the question of negligence in the treatment of fractures, it must be proved that the physician did not render the services for which he was employed, and did not exercise due and ordinary skill and care, such as is required of physicians. The courts usually hold that if a physician or surgeon adopts, in the treatment of a case, a method established and generally approved by the physicians and surgeons in the community in which he gives the treatment, at the time thereof, and is not negligent or careless in its application, he is not liable for untoward results caused by such treatment. If there are two or more approved methods of treatment of an injury of the kind committed to his care, he may adopt the one which in his honest opinion will be the more efficacious and appropriate under all of the circumstances; and in such case, he should not be liable for untoward results from an error in his judgment, if there be one. He is not bound, at his peril, to adopt the best method. It must also be found that the untoward result was caused by the lack of skill and care rendered by the physician; there must be a direct connection between the two. Unless it is proved by a preponderance of the evidence that the physician failed to exercise reasonable, ordinary, and average learning and skill in the treatment of the injury, such as is possessed by the average member of his school of medical profession in good standing in his locality, and to apply that skill and learning with ordinary and reasonable care, the physician cannot be held culpable. But he cannot shield himself from liability merely by saying that, though he erred, he used his best judgment. Such a rule would dispense with both skill and care. He must exercise reasonable skill and care, and the question whether he has done so is usually a question of fact. The mere fact that the broken bone did not stay in place after it had been set, and union did not take place in the usual length of time does not necessarily prove, or even imply, that the physician is negligent or unskilled. Physicians and surgeons are not to be held responsible for results, but only for the kind of service which they render.

An individual bringing suit for malpractice, in a fracture case, has the right to assume and prove, if he can, that there is but one usual or proper way of treating the fracture in question. But this is not conclusive or binding on the physician, who has the right to rebut such testimony, and to prove, if he can, that some other way is the usual way, or that there is more than one proper way.

Trial judges may allow, over the objection of the physician, the individual to exhibit the injured limb to the jury. Some supreme courts have stated that they are unable to see how a jury has any more knowledge relative to the issues involved after the inspection than it had before, nor, on the other hand, how the physician could be prejudiced by the inspection.

It is of interest to note that certain Courts of Appeal, in affirming large judgment awards for damages, have done so with the view that, "since the cost of living has greatly increased and the purchasing power of a dollar is far less than it used to be," the verdict was not excessive. Heavy damages have been awarded against physicians for failure to have an x-ray taken before setting a fracture, which should prove a warning not to undertake the treatment of such cases without first taking an x-ray, even in a very simple case, or even where it has been shown that (1) the patient was admitted to a hospital for treatment, (2) the x-ray apparatus proved to be out of order, and (3) the attending physician considering it inadvisable to confirm the diagnosis by administering an anesthetic.

A case including all these factors was one in which a rural general practitioner (not in this

State) was called to see a woman, a stranger in his community, with what he diagnosed as a fracture of the upper third of the femur. She was transferred to the community hospital, where his partner made an examination and confirmed the diagnosis. No x-ray was taken, and it was elicited in court that this procedure was not possible because the x-ray apparatus was out of order. As the two physicians agreed in their diagnosis and treatment, they did not consider the use of an anesthetic advisable. The patient, upon discharge from the hospital with a leg one-half inch shorter, was warned not to put any weight upon the leg for some time. Ten days after her return home in a large city, the leg suddenly gave way, and her family physician was sent for. She was removed to a hospital, where an x-ray showed that the fracture was not in the upper third, but in the neck of the femur. The argument arose at the trial that in view of the fact that the x-ray apparatus of the community hospital referred to was out of order, the physician was culpable for not making an examination under an anesthetic in lieu thereof. The verdict against the physician was largely influenced by the failure to have an x-ray of the fracture taken, for which failure as a matter of fact, he was not responsible. It was not his property, and he had no knowledge that it was out of order until after the patient was admitted.

While we admit and urge that in all cases of fractures and suspected fractures an x-ray study should be made, still there are certain extenuating circumstances which would render the procedure impossible, and such being the case, proper cognizance should be taken by the courts. (1) The patient may refuse, owing to the expense. (2) There may be no x-ray apparatus in the community. (3) The only x-ray apparatus in the community either may be (a) out of order, (b) transportation of the patient to the apparatus may not be possible, or (c) the apparatus cannot be transported to the patient.

It must be borne in mind, too, that the value of an x-ray examination is in direct proportion to the amount of experience of the roentgenologist who reads the x-ray plates. The occasional x-ray operator is not always competent to make accurate interpretations. We have seen normal epiphyseal lines erroneously diagnosed as fractures. We have also seen impacted fractures overlooked, because there was apparently no "solution in continuity" of the bone. In rural communities, therefore, even though an x-ray equipment is available, wrong deductions may be reached. This is also true in the small-town hospital, where there is not enough x-ray work to warrant a medical man specializing in roentgenology, and different members of the staff are called upon to venture their opinions as to x-ray findings.

THE QUESTION OF STATE AID FOR HOSPITALS

There is pending in the Dauphin County Courts a suit of such far-reaching importance and involving such fundamental factors that a summary of the situation is in order.

Since the year 1751 it has been an accepted function of the State Government to give aid to local hospitals throughout the Commonwealth, and until 1923, it had been customary for the Legislature to enact laws appropriating to each of the State-aided hospitals a maximum sum, which was paid out of the State treasury quarterly in proportion to the deficit each hospital was able to show.

Secretary Potter, of the State Department of Welfare, from a careful study of hospital appropriations during her association with the Bureau of Municipal Research, Philadelphia, became convinced that these appropriations were on an unfair basis of personal preferment instead of service rendered. A study of the figures submitted by the hospitals themselves had shown that some received as little as three cents while others received $4.32 per free day. A method was accordingly sought which would make it possible to compensate hospitals equitably for the service they render the sick poor.

To this end, a new system of accounting and hospital records was introduced into the hospitals of the State which made it possible to estimate accurately the cost of private and ward patients, and it was then proposed to the Legislature that an appropriation be made to the Department of Welfare for the purpose of purchasing from the hospitals care for the indigent sick at a per-diem rate.

In 1923, a provision was placed in each individual appropriation bill that the hospital should receive its appropriation at a maximum per-diem rate not to exceed $3 for the care of the sick poor, and that in no event should the payment exceed the actual cost of ward service.

In 1925, the Legislature made appropriations to 146 hospitals by special bills, and in addition appropriated one million dollars to the Department of Welfare to be distributed to hospitals of its choice on the per-diem basis.

In accordance with this Act, the Department made contracts with a number of hospitals for specified days of free service at a rate of $3 for

each hospital day. Among others, a contract was made with St. Agnes' Hospital, Philadelphia, for 8,500 days of free service. Secretary Potter has stated that an effort is made to allow 80 per cent of the cost of such service, the hospital assuming responsibility for the remaining 20 per cent.

While wide principles of administration are involved, the contract with St. Agnes' Hospital is the object of the specific attack at the present time, and suit has been instituted by the Pennsylvania Anti-Sectarian Appropriation Association (incorporated, with headquarters at 311-313 Victory Building, 1001 Chestnut Street, Philadelphia) to restrain the State fiscal officers from paying the hospital, on the ground (1) that St. Agnes' is a sectarian institution, and no money can be paid out of the State treasury to this institution, either directly or indirectly through the Department of Welfare; (2) that, even if nonsectarian, this million dollars cannot be paid out, because it is unconstitutional to appropriate money in a lump sum which is to be paid to a number of different hospitals.

Admittedly, State aid to sectarian institutions is unconstitutional in Pennsylvania. A clause of the Constitution also provides that general appropriation acts shall contain nothing but appropriations for the necessary and ordinary expenses of the State Government, and all other appropriations must be made by separate acts, each containing one subject only.

It is claimed by the defense that St. Agnes' Hospital is not a denominational institution, but the plaintiff claims that as it is located in a building owned by the Sisters of St. Francis, and as the corporation does not pay any rent for the property but holds it at the will of the owners, and further, as the advisory board which controls the institution was appointed by the Sister Superior of the Order, the hospital is therefore denominational.

The Department of Welfare claims that the question of State aid does not enter into the subject, that the Department is simply purchasing a certain amount of hospital service for the poor of the Commonwealth; and further, that care of the indigent sick is one subject, and therefore comes under the provisions of the constitution.

Among the interesting questions involved are the following:

It has been generally conceded that the constitutional provision against State aid to denominational institutions is a wise one. But a satisfactory definition of a denominational institution does not appear to have been evolved. The courts have several times decided that institutions were not denominational which the casual observer would unhesitatingly have declared to be denominational. A court decision definitely clearing up this point would be of considerable value.

What is and what is not State aid? The old method of individual appropriations to hospitals to make up deficits in their running expenses was undoubtedly a system of State aid, but the new method seems to have put the proposition on a totally different basis. Is the State aiding the hospital or the indigent sick? The Welfare Department claims that it is the people who are receiving the State care, and that the hospitals are simply supplying this on the same basis as any other purchasable commodity. Secretary Potter calls attention to the fact that there is no such thing as sectarian care of the sick, which undoubtedly is true, although there is such a thing as using the care of the sick to further sectarian ends.

That the new method puts the question of State appropriations on a more businesslike and equitable basis there is no question, and it is to be hoped that some constitutional method may be found to make its continuance possible. Hospital appropriations should be taken out of politics, and the very fact that politicians will undoubtedly be loth to relinquish this most powerful political weapon of patronage renders the change desirable.

If, however, the lump-sum-appropriation method is declared constitutional, there will be nothing to prevent extending the method to include educational and other institutions. On the other hand, if it is declared unconstitutional, certain of the State activities which have been established and unquestioned for some time would be jeopardized, such as the Mothers' Assistance Fund.

Two totally divergent views have been expressed by administrators well qualified to form opinions on the subject of State aid.

One side holds that, while the State has for many years been charged with the entire care of the indigent insane, it should not be obliged to assume any responsibility for general hospitals, that this should be the province of the municipality in which each general hospital is located. While admitting that State aid should not be withdrawn suddenly from any hospital, proponents of this plan hold that it would be quite feasible to discontinue gradually, over a period of years, giving every hospital ample opportunity to reorganize its method of financing. If this were done, the millions of dollars now donated to general hospitals could be applied to

correcting the appalling conditions prevailing in the State hospitals for mental disease.

They point to conditions of overcrowding, waiting lists of years' standing, release of uncured patients upon the community, lack of facilities for proper classification of cases, insufficient attendants and care, and all the other symptoms of starvation of our State hospitals that render their administration a nightmare, and claim that these could be remedied by a gradual diversion of State funds from the general to the State-owned hospitals.

This would be their solution of the problem arising out of continual suits to prevent payment of appropriations to institutions actually or alleged to be denominational. While it would be a hardship for the general hospitals during the period of withdrawal, eventually, it is claimed, they would be the stronger for having to stand squarely on their own feet. That the system of State aid has been injurious to the hospitals which received the appropriations is indicated by the deplorable lack of endowments among these hospitals that are State aided. "Out of 148 such hospitals in 1924, only 69, or 46.3 per cent, showed any earnings from endowments." Sixteen of these hospitals reported less than $10,000 endowment, and sixteen had over $10,000 but under $50,000.

The opposite point of view is expressed by those who believe in extension of the system of State aid. They believe the readjustments suggested to be excellent theoretically, but to present grave practical difficulties. Certain high lights of their argument should be considered: In some counties it would be practically impossible to support the local institutions without State aid. In the wealthier counties, to substitute county control and aid for State control and aid would impede standardization, and encourage political domination. If it is a function of the State to care for the indigent insane, why should it not also care for the indigent sick? The care that patients receive in State institutions under the direct supervision of the State Department of Welfare is infinitely better than that which they received under the old system of county control, for the salary paid to the average county-hospital physician is so low that even mediocre services can seldom be commanded.

Further extension of State support and control is therefore suggested by this group, possibly leaving the accumulation of capital and endowment of such institutions to voluntary contributions. It is even suggested by some that the provision against aid to sectarian hospitals is unfair, and that it would be preferable to admit them to State support under strict supervision rather than to abolish State aid in general.

The whole subject is a most delicate one, and we have attempted to do nothing more here than outline the facts and some of the problems arising from them. Many of the questions will have to be decided by the Courts, but after this, a sympathetic medical public opinion will be of great assistance in carrying out the best methods of administration.

HEART DISEASE IN CHILDREN

The symposium on this most interesting subject, which appeared in the August number of the JOURNAL, was both timely and up-to-date. It would be most interesting were it possible to determine whether there is really an increase in the number of cases of heart disease in children, or whether, owing to the increased interest in the subject and the improved facilities for diagnosing its existence, a larger number are being detected, without any actual increase in the number existing. Be that as it may, it is appalling to realize that so many little children should be the victims of this condition, and it behooves us to be up and doing, not only to relieve those already suffering, but to prevent its occurrence in the future.

It is well to bear in mind that a history of an attack of tonsillitis is not necessary before one can and should diagnose infected tonsils; and it is also important to realize that the small, buried tonsil is as likely, if not more so, to be a diseased tonsil than the large spongy one. It is unfortunate that investigators seem to have been unable to prove conclusively the existence of a relationship between infected tonsils, chorea, heart conditions, and joint conditions, as not only has there seemed to be such a relationship in the past, but the results of the removal of infected tonsils have frequently supported the theory.

One should certainly pause to consider the growing tendency toward x-ray treatment, rather than removal of tonsils, as to x-ray a diseased tonsil is not only to make a bad matter worse, but, far more important, to favor the development of various complications and sequelæ by the retention in the system of the infected material. One of the authors refers to dampness as a causative factor. This has undoubtedly been proved many times to be true, especially where the dampness is in cellars of homes built hurriedly, and frequently on "made" ground.

As is well stated in one of the papers comprising the symposium, rest is the keynote of the treatment of heart disease in children. It is unfortunate that such is the case, as there is perhaps nothing more difficult to insure than the rest treatment in the home, while it is equally impossible to obtain it in the small number of institutions at present available for this purpose. When one considers the remarkable results in the treatment of tuberculosis which have been made possible by the building of institutions for this purpose, largely from the funds raised by the annual Christmas Seal campaign, one is tempted to ask if a similar campaign should not be started to raise funds to provide institutions for patients with heart conditions, or perhaps if a portion of the money raised by the Christmas Seal campaign should not be assigned to this purpose. While one realizes the importance of the eradication of tuberculosis from our midst, it should also be borne in mind that the prevention and treatment of heart disease in children is perhaps more important, largely for the reason that a majority of cases of tuberculosis occur in adults, and it is upon the conservation of the lives of children that the future of the race depends.

A LAY VIEW OF THE NURSE

In view of the discussion throughout the United States in general in regard to the nursing problem, and in Pennsylvania and adjoining states in particular, we have given publicity in these columns to the various points of view. Sight is a faculty; seeing is an art. It is claimed by many of our opponents, that we have a distorted vision, in fact that we are markedly myopic. We have given the discussion not only from the standpoint of the medical profession, but also that of the lay press.

The following is a well worth-while editorial which recently appeared in the *Philadelphia Record:*

THE LADY WITH THE LAMP

In these skeptical days, no profession, business, or vocation is immune from inquiries as to its efficiency, adequacy, and general fitness in the scheme of things. Every human activity, from politics and preaching to housekeeping and hod-carrying, is subjected intermittently to analytical examination and appraisement. At the present moment, we note, the trained nurse is under scrutiny, and is faring rather badly. At least the Rockefeller Foundation reports that "animated and sometimes excited discussion busies itself with questions of her training, her qualifications, her fields of work, her hours, pay, motives, and attitude."

The essence of the criticisms seems to be that the modern trained nurse has lost a good deal of the bloom of the Florence Nightingale romantic tradition; that she is no longer the gentle ministering angel of legend, but an exceedingly businesslike, professional person with rather peremptory ideas concerning her own importance, dignity, prerogatives, and value, and not wholly innocent of instincts for—well, profiteering.

Physicians, says the report, find her "too often overtrained in theory, unduly professionalized, lacking in practicality and docility"—which means, apparently, a lack of submissive deference to medical authority. Yet there are, in truth, many cases in which the man of science can only watch and advise, and it is the woman with the spotless uniform and the steady eyes and hands who must go down into the valley of the shadow and lead the sufferer back.

Hospitals cherish a grievance against the nurse because, after they have trained her, she deserts the wards for more profitable work in school nursing, industrial hygiene and public health activities. Families complain of high charges, limited hours of service, a dictatorial demeanor, and a lofty disinclination to help in smoothing the domestic tasks of a disordered household. Many families of moderate means, indeed, find the services of a trained nurse no longer within their reach.

On her side, the nurse can and does make spirited answer that in view of her long, arduous, and costly training she is entitled to the status and remuneration of a competent professional. While her hospital experience is a valuable asset, she feels that she has paid for it by services rendered for small compensation, and that when graduated she has every right to seek a better market for her knowledge and abilities.

Anyway, the problem of procuring more and cheaper nurses is important and complex, and study of it has been taken up seriously by committees including physicians, nurses, and laymen. Many observers believe that the best solution would be the classification of nurses into several groups graded according to educational qualifications, experience, and technical training, so that patients might be able to procure help fitted to their varying needs and financial capacities.

DR. CHARLES W. ELIOT

Dr. Charles W. Eliot, President Emeritus of Harvard University, America's foremost educator, died at his summer home in Maine on August 22, in his 93d year. Dr. Eliot often was spoken of here and abroad as "America's first citizen." He was identified with practically every economic or social question brought forward in the past thirty years, writing and speaking so fearlessly that he was the center of as many storms of controversy and violent personal attacks as though he held personal office.

Dr. Eliot was chosen president of Harvard in his 35th year, being the youngest college president in the country, and continued in the chair for forty years. When he resigned, he had held the position longer than the combined terms of his five predecessors. As president, young Eliot started so many reforms that Dr. Oliver Wendell Holmes exclaimed: "He is turning the University over like a flapjack."

THE NEED OF ROUTINE NECROPSIES TO CONFIRM SCIENTIFIC RESEARCH

Application to the human race of experimental work with animals in an effort to determine the inheritability of disease tendencies and the laws of inheritance has been assailed because proof is not yet available that the same laws of inheritance apply to both man and beast.

It is argued by proponents of this method of study that the same laws have been found to apply to both plants and the lower animals, and that there is a greater gap between these two orders than between different species of the animal kingdom. Therefore, if the doctrine of evolution be accepted, unless man constitutes a definite break in the evolutionary line, the same principles of heredity must apply throughout all orders of life. While this reasoning is logical, nevertheless it must be admitted that positive proof has not yet been brought forward to show that it is correct, although the history of cancer families and noncancer families, of familial incidence of tuberculosis, of neurocirculatory disorders appearing in succeeding generations, of definite strains of insanity and mental defect, of racial incidence of certain diseases, and many other phenomena would tend to substantiate the claims that disease tendencies are transmitted according to the mendelian laws of heredity.

That this question is important cannot be denied, for while inheritance may determine the predisposition of an individual to certain diseases, this is not the only element involved, and proper precautions in cases of known susceptibility would usually prevent or delay the development of the disease in question. In tuberculosis, for example, while a hereditary weakness may be an element, it is also proved that malnutrition and overwork are productive of conditions which permit the tuberculosis bacillus to obtain a foothold. In its early stages the disease can be cured by proper treatment, so there is no doubt that it can be prevented by similar measures. It is a matter of common sense, therefore, for children of tuberculous forbears to take proper precautions against the development of this insidious disease.

If records were available of families for many generations back, showing the familial disease tendencies, it would be possible in suspected cases to have the patients' inheritance analyzed, and their chances of developing certain diseases estimated. This would relieve many people of unnecessary worry in regard to their health, and it would warn others to have first symptoms treated promptly and properly. Such records would be of quite inestimable value in the prevention of disease.

Vital statistics have been an important part of our national and state health services for many years. These statistics, however, are unfortunately not complete, nor is it possible for them always to be accurate, as diagnosis is frequently not confirmed by necropsy. The importance of increasing the number of postmortem examinations made was recognized by the Medical Society of the State of Pennsylvania when a committee was appointed over two years ago to confer with morticians and to develop methods of securing better coöperation with undertakers and families of deceased patients. Progress was made by this committee, but the real needs of the situation will not be met until necropsy is routinely performed in all cases, with reporting of findings to some central agency where they will be available for study.

When this is done, and not until then, will the data on causes of mortality be sufficiently complete to be of considerable scientific value. The subject is commended to the consideration of the Committees on Public Relations and Legislation, so that education of the public to the need of postmortems may be inaugurated, and legislative measures may perhaps be suggested that will solve the problem.

JOTS AND TITTLES

With the Scientists

Dr. B. M. Duggar, of St. Louis, recently told the International Congress of Plant Sciences of a microcosm of "simple living atoms" which is thought to have been discovered, representing a new form of life intermediary between living and nonliving forms. While it is ultramicroscopic, it has been traced as the causative agent of a mosaic tobacco blight. Attempts to isolate it by filtration, precipitation, grinding, and other methods have failed, but its existence has been detected through absorption, and its ability to reproduce has been noted. It is described as "smaller than bacteria, more minute than the cell, finer even than colloids," and may possibly "approach spontaneous generation in its origin, generating over a long period of time, and representing a newborn form of life."

At the same congress, Dr. Ralph R. Mellon, of Rochester, presented proof of a new theory that microbes may produce "sports" just as higher varieties of plants do. Sometimes the new varieties are less harmful bacteria that may be used in fighting the harmful ones, and sometimes entirely new species may result through hereditary modification. This theory provides an entirely new explanation of disease complications. Instead of being caused by new bacteria that have gained a foothold because of the weakened condition of the body, they may sometimes be simply different kinds of descendants of the bacteria which caused the original disease.

Baldness has occupied the attention of the British Association for Advancement of Science, one theory presented being .that baldness furnishes more oppor-

tunity for brain growth since it releases thyroid secretions which stimulate this growth. Another suggestion was that hair was a danger to prehistoric man, as he was perpetually being singed by fire and his life was often destroyed in this manner. Baldness, therefore, is a case of survival of the fittest.

Houdini has recently undergone a test to prove his contention that fear, not carbon-dioxid gas, is responsible for the death of miners and others trapped in air-tight compartments. The famous magician had himself sunk in a sealed coffin in a hotel swimming pool for an hour and a half, and reported that he felt only a slight dizziness when he was released. It was computed that there were 34,398 cubic inches of air in the coffin, and that the oxygen should have been used up in three or four minutes. He says that "the important thing is to believe you are safe, don't breathe deeply, and don't make any unnecessary movements."

Organization Activities

The Congress of Physiologists which held a five-day session in August at Stockholm, Sweden, was considered the greatest meeting of physiologists ever held. There were 567 delegates, the United States and Germany sending 100 each, and France and England 40 each.

A medical society composed of fourth-term boys who intend to become physicians was organized recently at the Thomas Jefferson High School, New York, according to the *Medical Journal and Record*. A condition of membership is a grade of not less than eighty per cent in first-year biology. The boys have received special instruction in hygiene and first aid, and will be taught to assist the medical office of the school in first-aid cases. The club has assumed responsibility for first aid at athletic meets.

The thirty-first annual convention of the National Negro Medical Association, held recently in Philadelphia, was attended by more than two thousand negro physicians, dentists, and pharmacists from nearly every state in the Union. Announcement was made of a gift of $25,000 from the American Hospital Association for a survey of negro hospitals.

Beginning January 1, 1927, the membership dues in the Philadelphia County Medical Society will be increased to fifteen dollars per annum. Probably the most important forward step in keeping the Society on a high plane of efficiency was the new by-law which incorporated the nomination and election of a president-elect. In the last few years the Society has grown with such rapid strides that, in order to be conversant with the business of the organization from its many angles, it is absolutely necessary to have some insight into the manifold duties that devolve on the presiding officer. Another wise provision of the new by-laws is the invitation extended to the vice-president to sit with the board of directors during their transactions. In case the president is incapacitated for any reason during his term of office, the vice-president takes the chair and not the president-elect. Thus two officers of the Society are being trained for the presidential chair. It does not follow that the vice-president should become the president-elect, but it certainly is developing many high-type men in the Society to carry on. The president-elect and the vice-president have no vote in the board of directors, but may be present at all meetings in an advisory capacity and may enter into all discussions.

Our Own Department of Pediatrics

According to the Bureau of Labor Statistics of the Department of Labor, the average cost of rearing a child in moderate circumstances, from infancy to adolescence, and fitting the child properly to take its place in the world, is $7,238. The cost of being born is not the least inconsequential in the long list, and the department has figured this item at $250. After that, the upkeep piles up, with clothing and shelter the most expensive item at $3,400, and food running a close second at $2,500. Prof. William F. Ogburn made the study for the Department, and finally hit a rough average in computations for a family of five—mother, father, and three children—having an annual expenditure of $2,500. His study has disclosed that it costs a little more to feed a boy from birth to 18 years than it does to feed a girl for the same period. The boy's food costs $2,400, and the girl's about $2,330. A girl's clothing costs more than a boy's—$1,002, compared with $912 for the eighteen years. The amount spent for shelter depends, of course, on locality, but the department has figured that a fair average for rent for people of moderate means is $45 a month, or $540 a year. The statistical experts then allot one-sixth of the housing expense to each child, which, for eighteen years, brings the share for each to $1,620. This figure does not include fuel and light, which amount to another $300 for each child for eighteen years. On the same basis of a one-sixth share, the average cost of furniture, household equipment, and upkeep during the eighteen years is estimated at $351. All these items total $3,327 for a boy and $3,417 for a girl, an average of $3,400 for the eighteen years. The remaining expenses, computed in the same way and for the same period, average: education, minor items met by the family purse, $50; education, major items, cost of schooling provided by the community, $1,100; health, $284; recreation, $130; insurance, $54; sundries, $570. This brings the total to $7,238.

We should like to inquire of the Department where a suitable house for a family of five may be obtained in any city for $45 a month—outside of the slums? It looks to us as though the experts were figuring on prewar prices!

The intense desire of human beings to see their offspring "do well" has brought about an epidemic of crippled spirits among American children, declares George Draper, writing in the *Forum*. "Two invisible and powerful dragons lie in wait for every child," he says. "One is the ceaseless pressure of parental interruption of the stream of psychic energy; the other is the system of education which grooms and lashes pupils for the leap over the hurdles raised by entrance-examination boards. It is extraordinary that many parents who take great pains to respect a child's stomach are ruthlessly disrespectful toward the youthful personality and mind. The result is an epidemic of spirit paralysis.....This universal tragedy of parenthood flows in part from the difficulty experienced by the mother in renouncing the joy of folding to the uttermost her fast-growing child to the protecting bosom whereon once the infant lay, or by the father to release the vigorously directing grasp of his hand from the little boy's shoulder. And so, between the two extremes of the orphan waif who, unoppressed, leaps onward to success and the pathetic adolescent still lashed to the parent leading string may be found examples of every variety and degree of twisted and crippled child spirits."

The problem of entertainment is a serious one in these days. A school superintendent not long ago stated that he personally knew children who attended the "movies" every day, and some occasionally as often as twelve times a week. The harm done to these children can scarcely be estimated. Not alone is the emo-

tional and nervous strain great, but the confinement in a close, dark room during the hours when the child should be playing in the sunshine or sleeping in his bed prevents proper physical development. An effort at controlling this situation is reported from Bolivia, where the government has decreed that children of twelve and under can attend moving pictures only on holidays, and then are limited to seeing pictures authorized by the police. It is believed that this move will safeguard, to some degree, the morals and welfare of the younger children.

Preventive Medicine

In the last fifteen years one insurance company has spent $18,709,000 on health work for its industrial policyholders. During this period, the death rate has declined more than 30 per cent. This reduction in mortality has meant an actual saving of $35,000,000, which, with the former death rate, would have been paid out in death settlements. An eighteen million investment and a thirty-five million saving! This holds true for other business enterprises. There is something in this life-saving business which reacts directly to the benefit of the manufacturer, the storekeeper, the public-service corporation, the exporter, the farmer, and the realtor. Disabling sickness resulting in inability to work has been found by actual surveys to amount to about seven days each year to industrial policyholders. Furthermore, it was discovered that about 2 per cent of the population, on the average, is sick at all times. The cost of this item alone in reduced production is estimated at about a billion dollars annually in the United States.—*Nation's Business Magazine.*

Experts estimate that damage totaling $500,000,000 a year is wrought throughout the country by smoke. This does not take account of the injury to health caused by cutting off of the ultraviolet rays of the sun, without which normal health cannot be maintained.

The Institute of Politics at Williamstown has been informed by Louis L. Dublin, an insurance statistician, that less than 50 cents per capita is expended annually on public health by our national and state governments, whereas proper protection is estimated to require the sum of $2 per capita. Mr. Dublin asserts that the value of an added year of life is estimated at $1,000, and the addition of five years to the lives of 117,000,000 Americans would add six hundred billions to the living capital of the country. If money talks, this is an excellent argument for immediate extension of our public-health work.

An organized effort to abolish the poorhouse as an American institution will be launched as the result of a two-years', nation-wide investigation financed by a dozen fraternal organizations and the Department of Labor. Harry C. Evans, of Des Moines, special Commissioner of Secretary of Labor Davis, recommends complete abolition of the prevailing county-poorhouse system and the continuance of its essential functions in a central home for the aged and friendless in each commonwealth. A complete report was submitted to the American Fraternal Congresses at Buffalo, N. Y., on August 16th, and affiliated societies will be urged to assist in bringing the recommendations to the attention of every state legislature in the next two years.

While much is yet to be learned about the causes and the modus operandi in the development of hypertension, the following conditions are of sufficiently definite etiologic significance to be of practical value: (a) toxemias and infections, (b) chronic nephritis, (c) focal infection, (d) nervous tension, (e) plethora, overfeeding, and overweight, (f) menopause.

"Prescription Bootlegging"

Twenty-seven doctors, thirty druggists, sixteen whisky agents and four drug corporations were indicted by the July Federal Grand Jury, New York, for conspiracy to violate the national prohibition laws. This action was the outcome of a drive against so-called "prescription bootlegging" which, it is alleged, caused the withdrawal by druggists last year of 500,000 gallons of whisky "over and above the quantity for which legal prescriptions had been issued." It was also said that possibly 4,000,000 spurious liquor prescriptions were issued.

It is alleged that the agent, representing various whisky houses, solicited from doctors their prescriptions for liquor, having them fill out blanks in some cases with fictitious names. The agent is said to have paid the doctors $100 a book for prescriptions. Later, according to the Assistant United States Attorney, the demand for whisky so increased that books were paid for at the rate of $150. In one case, prescriptions were found which had been issued in Missouri by physicians holding permits in New York. Investigation is said to have established that the signatures were false. In another case, it was alleged that a group of whisky agents had organized what was known as the Physicians' and Druggists' Service Bureau, the purpose of which was to solicit from physicians orders for the annual quotas of whisky and alcohol and also their prescription blanks. For the latter, it was alleged, $100 to $150 for a book of 100 blanks was paid. In some instances, they were unable to buy the prescription books from the physicians, and exchanged whisky for them. The doctors would fill in the blanks with fictitious names of patients and the names of druggists which the purchasers would supply. These prescriptions would then be taken to the main office of the bureau and there given to the whisky agents who had ordered them. The investigators said they had found many "washed" prescriptions which had passed through this bureau.

This appears from the allegations to have been the most complete organization in the entire so-called "ring." The bureau service was efficiently handled, and even maintained a doctors' filing system, the arrangements making it possible for a druggist who needed prescriptions to get as many as he wanted from the whisky salesman. The prescriptions thus obtained would bear the signature of a physician in his neighborhood. District Attorney Buchner recently referred to this drive against "prescription bootlegging" as the first of its kind, and directed against "a new class of higher-ups—the doctor-druggist combination—wherein the fountain pen takes the place of the rum-running boat and at much less risk."—*New York Times.*

INDUSTRIAL MEDICINE

Chronic Copper Poisoning.—Evidence is slowly but steadily accumulating in favor of the view that chronic poisoning with copper causes the symptom complex known under the different names of hemochromatosis, bronzed diabetes, and pigment cirrhosis. Copper is an exceedingly useful and indispensable metal in many ways, but it should not be employed where it may come in contact with foods or drinks, especially if they contain acids of any sort, because it is so readily dissolved by many of them. This would exclude its use for cooking utensils of any sort, for shakers of cocktails and acid drinks, and for the worms of the condensers in stills. Its use in pipes for drinking water and for hot-water heaters is probably without danger.—

F. B. Mallory, *Arch. Int. Med.*, 37, 3:336, March 15, 1926.

Acute Dermatitis Among Painters.—This report is based on a clinical study of 5 patients who reported at the plant hospital for relief from a troublesome skin eruption, and also on certain animal experiments made to ascertain the substances in the paints and thinners used which were responsible for the trouble. One man had been employed for 16 years, with more or less trouble throughout; a second man was employed for 2 years, with skin eruptions for the last year; another for 1½ years, with a skin eruption for the last part of that time; another, an apprentice boy, had been afflicted for only a short time; and the last, an apprentice employed in the pattern shop where, the day before the eruption appeared, he cleaned a machine, using cotton waste saturated with naphtha.

The author concludes that the solvents—turpentine, thinner (composed of turpentine and naphtha), and naphtha alone—appear to be the chief offenders in producing the dermatitis. In the last two cases reported, naphtha was the only solvent to which the patients were exposed. The eruption appeared only on the hands and forearms, and was characterized by a dry skin with redness, small blisters which tended to become larger by coalescing, and by some edema. The victims complained much of burning and itching. Desquamation accompanied the healing. A 1:1000 solution of potassium permanganate applied daily gave immediate relief and promoted healing.

The animal experiments showed that the paint substances themselves did not produce any marked skin reaction other than removing the hair, but that the solvents named produced, in addition, inflammation. Blistering did not occur in animals' skins, but was a constant feature with the patients. The author advises such workmen promptly to clean up parts wet with the solvents, using plain soap and warm water, and then dry the skin.

(A number of outbreaks of this "turpentine" dermatitis have come to the attention of the abstractor during the past 2 years in Ohio. The products of a number of companies have been involved. The substance appears to be one of the newer products of distillation of wood, and, while it appears to have superior qualities as a turpentine product, and is usually called "turpentine" in the trade, it appears to have quite irritating effects upon the skin of most workmen. In a recent epidemic in one plant employing not over 10 men who could have been exposed, 7 were afflicted. The exposure consisted principally in washing paint and bronze powder off of the hands several times a day.—E. R. H., J. A. Turner, *J. Ind. Hyg., July*, 1925, Vol. 7, No. 7:293.

Relation Between Health Supervision in Schools and Industries.—Hayhurst has quite recently suggested that perhaps there is a lack of adequate health supervision for children between 12 and 16 to 20 years of age, this being the period of greatest importance in the correction of serious defects and chronic afflictions. If different groups of children could be examined while in school, and the records preserved and compared with an examination made later in an industrial establishment, it would appear that we could have a fair estimate of the efficiency of health work in schools. To bring about the consummation of this plan would involve: (1) the use of standardized record forms and a manual of examination procedures; (2) the adoption of a rating scale applicable to physical defects; (3) use of records and rating scale upon the same individuals, comparing physical status in school and in industry; (4) a study of the relation of physical defects to absenteeism both in schools and industries; (5) the institution of an efficient follow-up system for the correction of defects. It seems rational to believe that the basis for industrial health work may therefore be largely grounded in school health supervision, and that the human product may be improved in the direct ratio in which school health work becomes more efficient. Gradually, this should cause industry to become more casually interested in the raising of the standards of school health; in fact, one may say that there might come a day when the larger industries would contribute in a material way to the advancement of health work in schools. A real program of preventive medicine in industry could thus be developed.

Psychiatric Case Studies in Department Store and Factory.—Because of limited space, only six cases are given and discussed in this paper. The selection was made by the author in the capacity of a consulting psychiatrist to health departments in a number of local department stores and factories. These cases illustrate in an approximate way the type of cases which are fairly commonly met with by the industrial and mercantile physician or psychiatrist.

The first is a case of psychoneurosis, the type of which is not definite; the second is a case where a compensation neurosis and malingering are the most probable diagnoses; the third is a case of general paresis; the fourth, a case of psychoneurosis of the psychasthenic type; the fifth, a case of manic-depressive psychosis in the depressed phase; while the sixth and last case presented is a psychoneurosis of the neurasthenic type with compensation neurotic features.

The paper as a whole points out quite definitely the value of psychiatry in industrial and mercantile medical practice.—H. B. Elkind, Jr., *Industrial Hygiene*, VIII, 3:94.

The Treatment of Accidental Wounds.—In this paper are given the important points in the method in use by the medical staff of the Pullman Car and Manufacturing Corporation in the treatment of accidental wounds of all types. They aim to prevent infection and promote rapid healing, and depend on the protective action of blood and blood serum and of phagocytes, rather than on chemical antiseptics.

The following are the important points in this method: thorough cleansing of the surrounding skin; trimming away of overhanging ragged skin margins; gentle, but thorough sponging out of the wound, removing blood clots and foreign matter; trimming away of all badly damaged tissue in the depth of the wound (this opens all capillaries and tissue spaces for the flow of serum); drainage strip, if needed; closure, according to best judgment, by adhesive strips or sutures; moist dressings, if needed; and, continuous moist heat in the more extensive wounds. If wounds are handled in this manner, nature will disinfect them in forty-eight hours, and healing will occur with a minimum of scar tissue. It is not necessary to use hot wet dressings in all cases, but it is always safe to use moist heat, except in cold weather when the patient is working exposed to the cold.—R. J. DeMotte, *Journal of Industrial Hygiene*, VIII, 3:89.

State Laws Needed to Compensate All Occupational Diseases.—Recent developments have shown the futility of the "specific-schedule" method adequately to compensate occupational diseases. Official ap-

proval of the all-inclusive method is steadily growing in various states. Newer forms of occupational poisons have recently aroused public interest because they were incompensible. The ultimate goal is a stimulus to disease prevention similar to that which has taken place following accident compensation laws. The present discredited schedule plan adopted in New York State four years ago was foisted on the state by opponents of adequate health for labor. Its results have been almost negligible. Five cases of girls who died in New Jersey from poisoning while painting illuminated figures on watch dials were not compensable since such an affliction was not included in the "list" of occupational diseases.

There is no reasonable excuse for delaying longer in extending all state workmen's compensation laws to protect all wage earners against all diseases arising out of their employment as they are now protected against accidental injuries. A worker incapacitated by occupational disease should receive compensation just the same as one who is injured by accident. Correct measures add but little to the total compensation burden of the individual employer, but to the individual victim of an occupational disease it is a much needed and wholly justified relief.—John B. Andrews, *Am. Labor Legis. Rev.*, Dec., 1925.

Siliceous Dusts.—Dr. C. M. Salls, in the *Industrial Hygiene Bulletin* of the New York State Department of Labor for March, 1926, gives an interesting discussion of dust samples examined for silica percentage and for the percentage of particles under 10 microns in diameter, the danger size. Many of these materials contained a high percentage of silica. All of the samples of granite dust and sand-blast dust contained more than 60 per cent of silica. Other materials containing more than 60 per cent silica include construction sand, powdered quartzite, powdered flint, glass sand, pumice, granulated quartz, raw brick clay, sand paper flint, powdered glass, kieselguhr, lithographers' flint, and refuse emery and pumice abrasive used for grinding glass.

Not all these materials involve a silicosis hazard, however. It has been conclusively proved that there must be an exposure to dust containing particles less than 10 microns (1/2500 inch) in diameter. McCrae found that the dust extracted from the lungs of deceased miners, by a process of acid oxidation, consisted of extremely minute particles. On measurement under the microscope, it was ascertained that none of the particles were larger than 12 microns in diameter, and that the great majority of them were less than one or two microns, or very much smaller in size than a red blood corpuscle, which is about 8 microns in diameter. As a result of a careful laboratory investigation, Watkins-Pitchford, working by a different procedure, came to the same conclusion as regards size of particles, but in addition to particles of free crystalline silica, they found particles of silicates and other materials. They conclude, "Little, if any, physiologic selection takes place, either in respect to the chemical nature or shape of the mineral particles which are deposited in the lung tissues; the only physiologic selection which appears to occur is in the matter of size."

Some of the materials having a high percentage of silica are practically free from very fine dust. Although one sample of granite dust contains nearly 50 per cent of dust below ten microns in diameter, another sample has only one-tenth of one per cent; showing that a cyclone separator will not separate the injurious dust from the air. The results on the sand-blast samples show that fresh unused sand is not injurious, but in use the particles are broken down to form particles of injurious size. Every sand blast outfit, therefore, should have some means of separating very fine dust from the larger particles before the sand is used over again. The low percentage of very fine dust for other high-silica materials shown in the table explains why there is no silicosis hazard in the use of these materials.

Silicosis.—Physicians interested in the problem of silicosis and pneumonoconiosis will find much interesting material in the special bulletin issued in 1925 by the Bureau of Industrial Hygiene of the New York State Department of Labor, entitled *Silicosis*. This contains a résumé of the literature arranged for the use of the physicians in the State of New York.

HOSPITAL ACTIVITIES

American Hospital Association Building.—The American Hospital Association announced the removal of its offices to the American Hospital Association building, 18-20 East Division street, Chicago, effective July 1st. A cordial invitation is extended to all hospital people to visit the building and to use it as their mailing address when in Chicago. It is the hope of the trustees, according to Dr. William H. Walsh, executive secretary, to make the building and the adjoining apartment building, which the Association also purchased, headquarters for the United States and Canada. The Illinois Occupational Therapists and the American Association of Hospital Social Workers already have leased space in the building, as has the National Catholic Welfare Council. The trustees of the American Hospital Association have extended an invitation to the Hospital Library and Service Bureau to occupy a number of rooms. Dr. Walsh reports that the Catholic Hospital Association has been invited to rent the smaller building owned by the Association. It will be the policy of the Association to invite other organizations allied with the hospital field to rent such space as may be available in the building, in order to bring as many of these organizations as possible together under one roof for the greater convenience of hospital executives visiting Chicago.—*Hospital Management.*

Hospital Merger.—At the annual meeting of the board of Mount Sinai Hospital, Philadelphia, the announcement was made of the completion of the merger of Mount Sinai and the Jewish Maternity Hospitals. Mount Sinai Hospital will erect a new building and an addition for approximately 100 beds, 50 beds of which will be given over to quarters for the obstetrical department. The Mount Sinai Hospital will continue to operate the Jewish Maternity Hospital, as a branch, until the new building is completed. The funds for the new building are already available as the result of a campaign by the Jewish Welfare Federation of Philadelphia. The medical staff and board of trustees of both institutions have been merged, and it is felt that the single institution will be able to do more effective work. The hospitals are located in the same part of the city, and it is felt that they minister to the same portion of the community. This will now enable the Mount Sinai Hospital to give interns and nurses training without affiliation for obstetrical service.

Catholic Hospital Convention.—The eleventh annual convention of the Catholic Hospital Association held at St. Ignatius Auditorium, Chicago, with an exposition of hospital supplies and equipment at Loyola gymnasium, near by, proved to be the best from the

standpoint of attendance, and from several other standpoints, in the history of the Association. The large attendance, not only of the superintendents and executives, but of heads of orders, was due to the fact that the convention was held immediately preceding the 28th International Eucharistic Congress, at which it was estimated that 1,000,000 Catholics were present. Rev. Charles B. Moulinier, S.J., Marquette University, Milwaukee, founder of the Association, was reëlected president; and Rev. Albert C. Fox, S.J., president of Marquette University, was named to succeed the Rev. P. J. Mahan, regent of Loyola University Medical School, Chicago, as acting vice-president. Sister M. Bernadette, superintendent, Marquette University Hospital, Milwaukee, was reëlected secretary-treasurer.

An outstanding feature of the convention was the large and comprehensive exposition of hospital supplies and equipment arranged jointly by the Association and the Hospital Exhibitors' Association. An ingenious plan was worked out to encourage visits by the Sisters to all booths, and under this plan each member of the Association was given a printed list of exhibitors, with a blank opposite on which the exhibitor was to record the name of the firm as an indication that the member had visited the booth. A large number of prizes were awarded Sisters who visited a minimum of 35 exhibits.

A striking statement by one of the speakers was that all the hospitals should realize that the day of the individual patient is here, and that all their efforts should be centered on serving the patient as a human being.

Dr. M. T. MacEachern, director of hospital activities, American College of Surgeons, read a paper on "The New College of Hospital Administration," of whose faculty he is a member. He reviewed the efforts to train hospital executives, mentioning the report of the Rockefeller Committee of 1922, the establishment of different types of courses at Teachers' College, Yale University, Cincinnati, Temple University, Philadelphia, and New York University, and the organization of the Marquette University College of Hospital Administration. Dr. MacEachern hazarded that at least 50,000 persons holding positions of varying degrees of responsibility in the hospital field should have more education and training. He dwelt on the necessity of training hospital executives, calling attention to the fact that this is an age of specialism, and that hospital work calls for much more special skill, knowledge, and experience than many other fields. The fourfold service of the hospital—care of the patient, teaching and training of professional personnel, promotion of health and prevention of disease, and promotion of research—and the ever-increasing demands from the community that are being made on the hospital are other reasons for more intelligent administration.

Dr. N. P. Colwell, secretary, Council on Medical Education and Hospitals, American Medical Association, Chicago, who gave a talk on "The Standardized Hospital as a Training School for Better Medical and Nursing Professions," incidentally mentioned that while there have been a number of efforts made by unethical practitioners to force hospitals to admit them, hospitals in every instance have been victorious where such efforts have been carried to law, except in one instance where the hospital did not choose to fight the issue. —*Hospital Management.*

Certain Methods of Arousing Interest in a School of Nursing.—Nan H. Ewing, R.N., principal, School of Nursing, Ravenswood Hospital, Chicago, states its purpose is to suggest some ways and means that may be applied by schools of high standards which will consistently aid the whole profession. This purpose is linked interminably with a plea for standardization and grading. We are incessantly working to put the schools of nursing on a standard basis so that the young high-school graduate need not be perplexed as to what resources and facilities are available at the school she wishes to enter. With the increasing number of nursing schools of varying standards, it is often difficult to convince young women that a three-year course in a high-grade school is worth while. They are lured by the short course and the financial rewards promised. Though potentially excellent material to begin with, many leave at the expiration of the course, disillusioned. Thus are created many active agents spreading harmful propaganda.

There are many events in connection with our profession and daily life that would be of interest to the public, and which, if they were more generally known, would favorably affect public opinion. Our Christmas services are generally appealing, but about the only write-ups are in technical journals, and the public at large knows very little about our beautiful customs. Last year we had the choir boys from All Saints Church sing carols with our nurses. Our nurses frequently give birthday parties for patients who have been with us for some time, and occasionally we have a wedding anniversary celebrated in our institution, an event which is planned for with great pleasure by the nurses. Even though no selfish motive enters into these preparations, there is no reason why such interesting events should not be made known to the public.

We urge our students to develop friendships with the patients. Our patients generally come from our own community, and by a large majority represent the type of families from which our students come. The day has passed when the nurse has to adhere to professional rules that rigidly cut her off from friendship with her patients. Mystery and aloofness are disappearing from all kinds of professional relations. The student is taught to introduce herself immediately on arrival in a form similar to this: "Mrs. Blank, I am Miss So-and-so, I will go up to your room with you and then I will bring the head nurse, Miss So-and-so, to meet you. She is very kind to all of us, and will do everything possible to make your stay here comfortable." This is not by any means such a stock phrase as it appears to be, but an introductory friendly remark that inspires confidence in the patient and paves the way for the development of a friendship with that patient. The nurse must never forget her dignity or ethics. We encourage our students to talk to the patients of nursing and nursing education. It requires tremendous tact and initiative.

Our nurses are permitted to bring their young friends from high school to our informal dances. During the holidays the students have guests, and the young women are privileged to have guests for meals. We like our students' friends to see first-hand what a happy life students of a school of nursing lead. We had a large crowd at our last capping ceremony, some mothers of students coming from out of town to be present. The nurses take an active part in many neighborhood functions. The various church societies give parties for the students, which make them feel quite at home in the community, and naturally give them an added pride in their hospital, while their social ties help in establishing a friendly feeling for professional nursing. Quarterly reports are sent to the parents of all students under 20, and every six months a letter is written telling the mother of her daughter's progress and what type of service she is having. In this way we are able

to convince the mothers of our students that we are really looking after their daughters—not only in an educational way, but in a health way. We are always seeking the real thing that can be utilized in the right way for our students. They make trips to other hospitals, schools, hotels, and factories.

In all this we have the utmost coöperation from our board and the woman's auxiliary. They should certainly be strong allies of any publicity plan. Organized sodalities for Catholic nurses, Lutheran leagues, Bible classes, or a branch of the Guild of St. Barnabas, interest laywomen to become associate members. Keep the people of your community ever in touch with what you are doing, and then watch your project grow. —*Hospital Management.*

What's to be Done About Service Under Workers' Compensation Acts?—Louis C. Trimble, Superintendent, New York Post-Graduate Hospital, New York, states that, in its origin, the compensation law had a most high purpose; namely, that of protecting the workmen from unnecessary injury, the employer from unwarranted and unjust law suits, and the public at large from an overcrowding of the courts with cases which might well be settled through other channels. Perhaps the greatest difference in the laws settles around the amount of compensation to be paid to the injured individual, and the amount to be paid for the treatment the said individual must receive at the hands of the medical profession. In all instances the employer is required to furnish medical service, when necessary, to every injured employee without delay, and of a type recognized to be satisfactory from both the medical and legal viewpoint.

Several years after the passage of the Compensation Act, it was found necessary to amend the law so that the employer could comply with the financial requirements by means other than that of merely setting aside a specified amount of money in a special fund or under a blanket bond. This has been supplied by the insurance companies, and has been recognized by the law under the term of "insurance carrier." It is in this phase that the compensation law develops its greatest weakness, for the reasons that compensation has become a salable commodity which is purchased by the insurance company from the physician and from the hospital, and this commodity, under the title "protection," is resold to the employer at a price that will net a profit to the carrier.

So long as the medical profession dealt directly with the employer or with the injured party, there was an element of personal interest and a desire to coöperate in living up to the principle of the law, but this most satisfactory condition has practically ceased to exist. Without question, the duty devolves upon the medical profession and the hospital to furnish first aid and after care without delay or argument to any man, woman, or child who may have been injured, and endless and perhaps justified criticism would be meted out to the individual or institution which refused such treatment. Yet it is equally true that after treatment has been given in accordance with the law, and the dictates of humanity, there are numberless instances where the insurance carrier immediately sets out to find some means by which it may refuse to pay the hospital for its services. The records of every hospital will show numerous cases in which the necessary and demanded care has been given to injured employees in good faith, but when they have requested pay for this treatment a statement that the account is not collectable because of some failure on the part of the employee to comply with the law is all that has been received, although such failure is obviously beyond the knowledge of the hospital.

It is most apparent that the law itself has failed in its intent, at least in part, because it has forced upon the general public the necessity of assuming the cost of a large portion of the responsibility which should be properly assumed by the employer. That the law has failed in other ways is attested by the fact that 200 amendments were placed before the legislature of a single state during the past year. It is safe to say that upon the hospitals themselves rests the responsibility for this condition, for they have so long offered ward service to all those who ask for it at a rate much less than cost that they have not yet come to realize that there is no necessity for their doing this in compensation cases.

Some of the members of the profession, being governed by a short-sighted viewpoint, have made strenuous objections against the hospitals to which they were attached making any effort to change conditions for fear that some hospital would continue to offer a cheaper rate, that the insurance carrier would deflect patients to these institutions, and that they might eventually lose some paying patients. Imagine the displeasure of an individual who is planning to remember a hospital in his or her will, or drawing an annual contribution check in the belief that this is to be used to assist those whose financial burdens, increased by illness, have become too great to bear, learning that a portion of this contribution is to be used in paying the cost of compensation cases, the responsibility for whose payment should be without question assumed by the employers.

Concentrated, united effort by hospital administrators to inform the public of the situation, to educate their own surgeons, and to convince the various legislatures of existing costs and criticisms will eventually bring a solution of this problem, a solution that will be fair, just, and in accord, not only with the word, but with the spirit of the Compensation Law.—*Hospital Management.*

The Hospital Superintendent and His Duties.—A. O. Fonkalsrud, Ph.D., superintendent, Sioux Valley Hospital, Sioux Falls, S. D., considers that the duties of the office of superintendent in the modern hospital may be classified as implied and vested. The implied duties are those peculiar to the executive as administrator and of the internal affairs of the organization, and are recognized by the established purpose of the institution. The first duty of the superintendent is to manage the hospital so that it serves the purpose of its founders to the fullest extent. The vested duties are those relating to external affairs, and may include any and all things which the governing board wishes to delegate to its superintendent. The delegated duties usually pertain to corporation affairs and matters beyond those which are strictly executive; to make surveys of the hospital field as to what is needed, and to balance these with the facilities of the hospital.

Much bungling may be found in the hospital field because of the inability of the superintendent or some other individual to harmonize properly the need of the community with the hospital plant. The fact is that to specify duties in detail is difficult, as it will depend upon the qualifications of the individual. As a principle, it is well not to be too specific in the assignment of duties, but let common sense and general instructions be the guide. One hospital board gave its instructions in these words: "The superintendent

represents the authority of the board." Few superintendents wish to assume the responsibility of passing final judgment upon the hospital needs of a great community.—*Hospital Management.*

Loss of Eyesight.—Speaking recently on the economic value of preventing blindness, Dr. Park Lewis, vice-president of the National Committee for the Prevention of Blindness, pointed out that in New York State alone close to $1,000,000 is paid in compensation for eye injuries in a year, and that approximately the same annual figure is reached in Pennsylvania.—*Hospital Management.*

Hourly Nursing in Chicago.—"The Central Council for Nursing Education and the first district of the Illinois State Association of Graduate Nurses have arranged for hourly nursing for Chicago in homes where a full-time nurse is not required. 'Skilled Nursing at a Minimum Expense' is the title of the announcement of the inauguration of this service, the notice reading in part: 'The following schedule has been adopted: Hours between 8:30 A. M. and 10 P. M. Service limited to three hours per visit. Cost $2 for the first hour or fraction thereof; $1 for the second hour or fraction thereof. Hourly nurses may be obtained at the Chicago Nurses' Club and Registry, 116 S. Michigan Avenue, Chicago, telephone State 8542.

"The following suggestions indicate the character and value of the work: A doctor, in sending his hospital patient home, may be assured that his written instructions will be carried out by the hourly nurse. Perhaps a bath, dressing, or hypodermic is all that is necessary, and this can be done in a short period of time. A family in a small apartment or hotel will find that hourly nursing solves two big problems: it eliminates the question of housing the nurse, likewise providing her meals."—*Hospital Management.*

The Hospital is a Part of the Community.—At the convention of the Associated Advertising Clubs of the World at Philadelphia in June, a speaker before the community-advertising sessions advocated taxation as a means of raising funds for advertising cities and towns. This brings to mind the fact that seldom in the folders and leaflets issued by various commercial clubs and similar organizations calling attention to the advantages of the community is mention made of the hospital facilities. When such mention is made, it usually is found that reference to hospitals merely includes a brief sentence to the effect that there are so many hospitals "whose service is unexcelled" in the community. Every experienced hospital administrator knows that hospitals are becoming more and more an integral and important part of the community and are exerting a stronger influence in community health through the development and expansion of outpatient departments, public-health nursing courses, social-service departments, and similar services.

For this reason it would seem advisable that hospitals should have a place in a list of any assets or advantage of a given community, especially since the average hospital serves patients from widely scattered areas, and also because the public as a whole is being impressed more and more with the importance of the hospital as a community asset. *Hospital Management* therefore offers this suggestion to hospitals in communities possessing a chamber of commerce or similar organization. See that in any literature concerning the advantages of the town the information concerning the hospital facilities is adequately presented. Comparatively few leaflets or pieces of literature of this kind mention hospitals, and still fewer do this in a way that means anything either to readers of the publications or to the hospitals themselves.—*Hospital Management.*

The Difference Between a "Case" and a "Patient."—At different hospital-association conventions, speakers frequently stress the fact that every hospital worker should remember that the patient is an individual human being and that he has feelings and sensibilities as well as representing an example or case of injury or illness. Seldom, however, has this idea been presented so clearly as was done by Dr. Craig at the convention of the Catholic Hospital Association, when he pointed out that the actual materialistic value of an average man is about 98 cents, while the value of the human being is about $5,000. The difference between 98 cents and $5,000, as Dr. Craig said, indicates that there is something more than materialistic value to a patient, or else it would not be logical or economical to spend millions of dollars for the treatment of "a 98-cent lump of clay." This is the idea that should be kept to the fore in every hospital, and Dr. Craig has rendered a definite service in expressing it so vividly. —*Hospital Management.*

Fiftieth Anniversary of Johns Hopkins.—The celebration of the fiftieth anniversary of the founding of Johns Hopkins University will take place on October 23d. The chief events of the occasion will be the dedication of the new million-dollar building of the School of Hygiene and Public Health, a series of conferences to be addressed by leaders in the social and natural sciences, commemorative exercises, and an alumni banquet. Among the speakers will be: Dr. Andrew Balfour, director of the London School of Hygiene and Tropical Medicine; Professor Neufeld, director of the Institute of Infectious Diseases, Berlin, who will deliver the De Lamar Memorial Lecture; Prof. Levy-Bruhl of the department of modern philosophy at the Sorbonne; Albert C. Ritchie, Governor of Maryland, a Johns Hopkins alumnus. Dr. Ira Remsen, the only surviving member of the original faculty of the University, will attend the celebration.

The award of contracts for the New York State Psychiatric Institute and Hospital at Riverside Drive and 168th Street, New York, which will function as a part of the Medical Center, brings to a successful conclusion thirty years of effort by the State Hospital Commission to provide adequate facilities for research into the nature and causes of mental disease and for instruction in the treatment and care of mental disorders.

The plans provide for a fireproof hospital and outpatient clinic eleven stories high, surmounted by a nine-story tower that will accommodate the laboratory and research departments of the institution. Beds will be provided for 210 patients of both sexes, including children, grouped in small ward units so that the different types of cases can be separated for study and treatment according to their individual needs. Provision has been made for all the approved and modern diagnostic and treatment facilities which will make possible the use of hydrotherapy, electrotherapy, occupation therapy, light therapy, physiotherapy, gymnastics, psychotherapy, and special medical and surgical procedures. A well-equipped dental department will be included. All varieties of mental diseases will be studied. Admissions will be so controlled that special groups of patients or special types of disease will receive preference according to the special researches under way at any time.

The children's department will constitute an important phase of the clinical work. To it will be devoted

an entire floor of the hospital building. The children's wards will be provided with school rooms, work shops, and play rooms. Not only children suffering from definite mental disturbances will receive attention, but also children showing signs of nervousness, emotional instability, backwardness, or mental deficiency. Special facilities will be provided for studying children who offer problems in the school and preschool ages. If necessary, such children will be admitted for observation and determination of the plan of treatment. It is generally recognized that there is a great need for intensive study of the instinctive and emotional life of maladjusted children, producing behavior disorders, delinquencies, and psychopathic tendencies in children, as well as forming the foundation for many mental disorders which develop in later life. In connection with the outpatient department, a special habit-training clinic for children and parents will be provided.

The teaching activities of the institution will be carried on in practically all of its departments. Psychiatry has been generally neglected in medical education. A large lecture hall and smaller class rooms and teaching laboratories will afford ample opportunity for educational activities. Teachers of psychiatry will be enabled to hold clinics and demonstrations, and give instruction at the bedside in the wards. In conjunction with the medical schools of the city, postgraduate courses of instruction in psychiatry will be given for practicing physicians. Lecture courses will be arranged for school teachers, social workers, welfare officers, and others whose work brings them in almost daily contact with various psychiatric problems.—*Medical Journal and Record.*

PUBLIC HEALTH

Activities of Pennsylvania's Bureau of Public Health Education.—This bureau of the State Health Department covers practically all of the phases of modern publicity. It issues monthly an illustrated magazine called the *Listening Post,* which now has a circulation of 25,000, including physicians and laymen. This journal aims to popularize the various problems related to public health and personal hygiene, and at the same time include material which is worth while to the profession. The Bureau maintains a weekly-health-letter service in the form of articles prepared by the Bureau and sponsored by the respective division heads. At the present time, over 300 newspapers in the State are receiving this material and printing it. An effort is also made to bring matters of legitimate interest to the public before the newspaper readers in the form of news articles. Activities along this line have included special articles for the Sunday newspapers, notably the Philadelphia *Public Ledger* and the Reading *Sunday Tribune.* Articles prepared by the staff for publication in journals such as the *American Public Health Association Journal,* the *Social Hygiene Journal, Hygeia,* the *Survey,* and others, are frequently edited and sometimes prepared in this Bureau.

There are on file in the Bureau nearly a thousand photographs which accurately set forth the various activities of the Department of Health. Copies of these pictures may be obtained free of charge for the purposes of reproduction in magazines and newspapers. In addition, several hundred cuts for use in magazines only, are on file and may be obtained free of charge upon request to the Bureau.

Free lectures on departmental work may be arranged through the Bureau of Public Health Education upon reasonable notice. The lecturers are for the most part members of the central-office staff, who, among their other duties, address service clubs and kindred organizations when such service is requested.

The Bureau also maintains a moving-picture service through which films may be obtained for use by the citizens of Pennsylvania free of charge. These films are constantly in demand, and comprise the following subjects: *Child Welfare*—Our Children; *Embryology*—How Life Begins; *Fly Extermination*—Fly Danger, House Fly; *Rat Extermination*—Rat Menace; *Tuberculosis*—Jinks (a humorous animated story on tuberculosis), Your Wards at Cresson; *Teeth*—Mouth Hygiene, Your Mouth; *Mosquito Extermination*—The Mosquito; *Animated Cartoons*—The House Fly, Milk, Diphtheria (10-minute reels); *Smallpox*—One Scar or Many; *Cancer*—The Reward of Courage; *Venereal Diseases*—Gonorrhea in the Male (Diagnosis and Treatment), Men's Lecture Film, Modern Diagnosis and Treatment of Syphilis, Women's Lecture Film; *Miscellaneous*—First Aid, Infantile Paralysis, Medical Inspection in Schools, Typhoid Fever, Conquering Diphtheria, Public-Health Twins at Work. Still pictures are also available through this Bureau, covering the following subjects: *Lantern Slides*—The House Fly, Keeping Fit; also boys' and girls' "Keeping Fit" posters.

The Bureau also acts as a distributing agency for a large number of pamphlets prepared by the various Bureaus and Divisions, as well as pamphlets furnished the State Department of Health or purchased by it from the United States Public Health Service and other health agencies.

The citizens of Pennsylvania have reacted most favorably to the activities of the Bureau of Public Health Education, and thus indicate that a growing consciousness as to the personal obligation of the individual to maintain a high general rate of health is fast becoming realized.

Mr. Ford Criticizes the Doctors.—According to the *Boston Transcript,* Henry Ford has declared it to be his conviction that the doctors are on the wrong track today. "If the doctors would invent something to prevent people from being sick," he is reported to have said, "they would get so much money that they would not know what to do with it. I don't think the doctors have waked up yet."

Health authorities, many of whom are physicians, have emphasized for years the need for more general use of preventive measures, but on the whole we are inclined to agree with Mr. Ford. A large number of physicians have not grasped the opportunities to preach prevention to their patients. It is true that many organizations of medical practitioners have endorsed the idea of the periodic physical examination, but how many of the individual members of these societies have urged their patients and the families of their patients to have such examinations? In spite of the fact that scientific medical bodies endorsed vaccination to prevent smallpox which has been advocated for more than a century, how many physicians advise their clientele to have the babies vaccinated when they are six months of age? Most of them wait until the mother brings the child to the doctor, stating that the school "won't admit John or Mary unless she is vaccinated." Despite the fact that toxin-antitoxin is recognized as a preventive of diphtheria how many physicians urge it in the families which they attend.?—*Selected.*

President-Elect Albertson

Harry W. Albertson, M.D., was born at Red Rock, Luzerne County, Pennsylvania, August 2, 1875, the son of Jesse and Bertha (Seward) Albertson.

The Albertson family in America originated from one Nicholas Albertson, a Dutch trader, who settled in Long Island in 1629 and later removed with his family to New Jersey near the present site of Blairstown.

Jesse Albertson, great-grandfather of Dr. Albertson, early in the nineteenth century came to northeastern Pennsylvania from New Jersey, and purchased a tract of land in lower Luzerne County which he cleared and farmed. The Doctor's father learned the carpenter trade, and in 1886 engaged in the contracting and building business at Dallas, Pa.

The Sewards, ancestors of Dr. Albertson's mother, were of mixed British descent and were among the early settlers in the Connecticut Colony, migrating through what is now central New York into northeastern Pennsylvania. William H. Seward, Secretary of State in the Cabinet of President Lincoln, was a cousin of Dr. Albertson's grandfather. Thus a true American type is given the present generation.

Dr. Albertson was educated in the public schools of Dallas, where he prepared for and taught school, later attending Wyoming Seminary at Kingston, and then for a time entering upon a business career. But from boyhood's earliest days he had always had a desire to study medicine, and while thus engaged in business borrowed textbooks on anatomy and physiology, and devoted all his spare time to their study. In 1898 he entered Jefferson Medical College, Philadelphia, graduating with the class of 1902. After passing the examinations of the State Board of Medical Examiners the same year, he became an intern at the Fountain Springs Hospital, Ashland, Pa., where he served under the late Dr. Jonathan C. Biddle.

In 1904 he opened an office in Scranton, Pa., and soon after became affiliated with the Lackawanna County Medical Society. In 1905 he assisted in organizing in northeastern Pennsylvania a chapter of the Alumni Association of Jefferson Medical College, declining the presidency at that time in favor of older graduates, but serving in this capacity in 1912. This organization is today an educational institution bringing together hundreds of physicians to attend the clinics held on the day of the annual meeting.

In 1913 he was elected assistant secretary of the Lackawanna County Medical Society, and appointed editor of its monthly journal. The next year he was elected secretary, in which capacity he served the Society with unabating zeal for four consecutive years, at the same time editing the journal. These were years of steady growth of the Society and unusual activity, and its successes were largely due to his efforts. As a result of this faithfulness he was selected to be the president of the Society in 1918.

In 1916, at the Scranton meeting of the State Society he was chosen Chairman of the Secretaries' Conference of the State Society. The following year, he was elected to the Board of Trustees at the annual meeting in Pittsburgh to represent the Second Councilor District. He was at once chosen chairman of the finance committee, which office he admirably filled for eight years until chosen President-Elect. Few had realized what, in his quiet way, the head of this all-important committee was doing for the Society. A review of the financial condition of the State Society, with the magnificent accomplishments during these years reflects great credit upon the finance committee.

During the eight years in which Dr. Albertson was chairman of this committee, he toiled ceaselessly toward the accomplishment of a twofold purpose; namely, acquiring a home owned by the Society, and placing the finances of the organization upon a firm basis. Within the first five years the former of these was realized when in 1922 the Society purchased its present home at 230 State St., Harrisburg. The second objective, too, has been attained. When he began his activities as chairman of the committee there was no endowment fund. He succeeded in having a small surplus, then on hand, placed as the beginning of such a fund, and today the Endowment Fund consists of a substantial amount. The Medical Defense Fund was started with three thousand dollars, and has since grown to an amount ten times as great. It is now in such condition that it will not be necessary to ask for more contributions. Another progressive step introduced by Dr. Albertson was the budget system for the finances of all departments. Under his direction, through the work of accounting experts a complete accounting system was established.

Thus the Society has gained much as a result of the past work of the President-Elect, for out of a poorly financed organization has grown one with a substantial financial reserve and sound investments among its assets.

During the year since October, 1925, Dr. Albertson has traveled widely over the State in response to invitations from various county societies.

In 1922 he served as a member of the House of Delegates at the St. Louis meeting of the American Medical Association.

During the World War he served as a member of the Medical Advisory Draft Board of Northeastern Pennsylvania.

In 1918, during the influenza epidemic, he organized and conducted an auxiliary hospital to the hospitals of Scranton and vicinity, in the Thirteenth Regiment Armory at Scranton, caring for over eight hundred unfortunate victims of that dreadful scourge.

Dr. Albertson is a member of the Staff of the West Side Hospital in Scranton, visiting physician to the Home for the Friendless, a Mason, a member of the Green Ridge Club and of the Providence Presbyterian Church.

In 1904 he married Miss Lulu M. Raub, of Dallas, Pa., who died in 1925. Two children resulted from this union, Marjorie Louise, a graduate of Central High School, Scranton, who will enter college this fall, and Harry Raub, a student at the Junior High School at Scranton.



HARRY W. ALBERTSON, M.D.

The Seventy-Sixth Annual Session

ADVANCE INFORMATION ABOUT THE MEETING

The seventy-sixth annual session of the Medical Society of the State of Pennsylvania will convene in Philadelphia on Monday, October 11, 1926. The first day will be devoted to meetings of the Board of Trustees and the House of Delegates, and the first scientific session will be held in the Ballroom of the Bellevue-Stratford, on Tuesday, October 12, at 10 a. m.

The Committee on Scientific Work has this year prepared something just a little different in the way of a program. Every section is to have a clinical session at one of the hospitals of the convention city, and a great deal of thought has gone into the preparation of these clinics, so that they may be of the utmost value to the members in attendance.

In the remaining sessions, which will be held at the Bellevue-Stratford, the "period" system that proved so popular last year will be continued, so that it will be possible for every member to know exactly when every address on the program is to be presented.

The one criticism heard of last year's meeting was the lack of time for open discussions of the subjects considered by the essayists. This defect has been remedied this year.

The scientific program was published in the August number of this JOURNAL, and those who have not already scanned it, are requested to do so, for they will thus very surely receive an impetus to attend the inspiring meeting of which the program gives promise.

THE GUEST SPEAKERS

General Sessions

Dr. Aldred Scott Warthin, Ann Arbor, Mich., Professor of Pathology at the University of Michigan, will deliver an address on Wednesday morning at 12 o'clock on "Syphilis of the Cardiovascular System." Dr. Warthin is a forceful speaker, and a recognized authority on the subject. A rare treat is in store for any one who is so fortunate as to be present.

Dr. Francis Carter Wood, New York, N. Y., has long been known as a student and investigator of cancer. He is Director of the Crocker Institute of Cancer Research of Columbia University, and Editor of the "Journal of Cancer Research." He has contributed a great deal to our knowledge of cancer, and has taken a leading part in various organizations for the control of cancer. Dr. Wood has made several trips to England to study the work of Dr. Blair-Bell, and will give us a report of this very much talked-of method of treatment.

Section on Medicine

Dr. Howard T. Karsner, Cleveland, Ohio, is Professor of Pathology at Western Reserve University. Dr. Karsner has long been prominent in pathological circles in America. His contributions to medical science have been numerous, and many of them important. Of recent years he has written more extensively on subjects pertaining to immunology. He is the author of a book on this subject, and at the present time is writing another on pathology.

Dr. Francis W. Peabody, Boston, Mass., is Director of the Thorndike Memorial Institute, which is associated with the Boston City Hospital. Dr. Peabody is an Associate Professor of Medicine at Harvard University, having previously spent several years at the Peter Bent Brigham Hospital. He has written extensively on many medical subjects, and during the past few years has been particularly interested in pernicious anemia.

THE SCIENTIFIC EXHIBIT

Plans are practically completed for the Scientific Exhibit, which will be an important part of the meeting. The policy this year is that of service to the general practitioner. Matters of pure science have been entirely eliminated, and the message will be brought home in a more practical way than ever before by demonstrators who will be in attendance at the exhibit a large part of the time. The subjects thus arranged for are as follows, and others are in prospect.

Fresh Surgical and Necropsy Material. Arrangements have been made to collect these materials from the Philadelphia General and most of the other large hospitals in Philadelphia. The former institution, with its average of three to four autopsies a day, assures an abundance of material of this sort. Demonstrators will have the clinical histories in hand, so that symptomatology and treatment may be correlated with the necropsy findings. Those who have attended the meetings of the American Medical Association in recent years will recall the success of this feature, and the value of such postgraduate instruction to the medical public. There was always a large attendance around the booth where the fresh material was displayed. At out State Society meeting, the accompanying clinical data will make the presentation even more valuable.

Dick and Schick Tests. Dr. Edward L. Bauer will demonstrate these tests on the patient, supplementing the actual demonstration by information as to the indications, interpretation, etc. Dr. Bauer is in a position to give authoritative, first-hand instruction on this subject by reason of his extensive experience with these tests.

Vaccination Technic. That the importance of this procedure is underestimated by the medical public is indicated by the fact that the Surgeon General has deputized Dr. J. P. Leake to conduct special investigations on this subject. Many important details regarding the whole field of smallpox prevention are not widely known. Dr. Leake will have a series of student volunteers available with whom to give concrete examples of the reaction produced by an approved method of vaccination. He will also be available for questions and discussion on the general subject of smallpox and vaccination.

Clinical Pathology. Most of the larger hospitals of the city have promised to preserve such fresh clinical material as may come to hand during the time the State Society is in session, and put it on exhibit. Such things as spinal fluids, gastric contents, blood, pleural effusions, etc., will be accompanied by the clinical records, and a discussion will be given by one of the pathologists on the information which may be gathered from the pathological examination of material.

Serology and Laboratory Diagnosis of Syphilis. Dr. John A. Kolmer will demonstrate the most recent developments in serological methods and their application in general. A demonstrator will be in attendance constantly.

Biological Chemistry. Mr. F. L. Wright, Jr., will show the present status of blood chemistry as illustrated by the work of the Pennsylvania Hospital. The technic used, the growth of the clinical demand for blood chemistry, and certain modifications of the more common methods and time-saving devices will be shown.

Surgical Anatomy. Dr. T. Turner Thomas will demonstrate dissections of joints, illustrating the mechanisms concerned in the production and reduction of fractures and dislocations. Many physicians are already acquainted with the beautiful preparations which are at his command, and the presence of a demonstrator will make this phase of the exhibit an unusually attractive and valuable one to the general practitioner.

X-Ray Nephritis. F. W. Hartman, M.D., Adolph Bolliger, Ph.D., and H. P. Doub, M.D., of the Henry Ford Hospital, Detroit, Michigan, will exhibit experimental nephritis in dogs which was induced by deep x-ray therapy applied through the body wall over an area of 10 to 15 cm. square, using the costovertebral angle as the center. This study is of practical importance in connection with patients whose kidneys may have come within the range of present-day deep x-ray therapy. This exhibit was awarded a prize at the recent meeting of the American Medical Association in Dallas, and its presentation will be one of the outstanding features of the State Medical Society's Exhibit.

Thyroid Disease. Dr. Robert A. Keilty will present the subject of thyroid disease as it obtains in Danville and environs, and as studied in the George F. Geisinger Memorial Hospital. Phases of the subject additional to the purely pathological ones, such as the distribution of thyroid disease in different parts of Pennsylvania, importance to children, medical and surgical phases, therapy, etc., will be covered and brought to the attention of the visiting doctors in a form of the most practical value.

Urography. Drs. Leon Herman, David R. Bowen, and Milton Frazer Percival will present from the Urological and Roentgenological Departments of the Pennsylvania and Methodist

THE GUEST SPEAKERS

Section on Surgery

Dr. Joseph Colt Bloodgood, Baltimore, Md., has an international reputation as an authority on cancer, and has contributed many valuable articles to medical literature on this subject, particularly on cancer of the breast and oral cavity, and bone tumors. He was graduated from the University of Wisconsin in 1888, and from the University of Pennsylvania in 1891. He has been Associate Professor of Surgery at Johns Hopkins University and Hospital since 1903, Chief Surgeon of St. Agnes' Hospital, Consulting Surgeon Cecil County Hospital, Elkton, Md., and Washington Hospital, Hagerstown, Md. Dr. Bloodgood will present the subject of "Bone Tumors," with a lantern-slide demonstration which unquestionably will be of great interest and value to every physician and surgeon present.

Dr. Edward C. Kendall, Rochester, Minn., in 1910 received the degree of Ph.D. from Columbia University. From 1910 to 1911 he was research chemist for Parke, Davis and Company, making investigations concerning the thyroid, and he continued this work in St. Luke's Hospital, New York, from 1911 to 1914, when he became head of the Section on Biochemistry at the Mayo Foundation. He is now Professor of Biochemistry at the Mayo Foundation Graduate School of the University of Minnesota. To him belongs the distinction of having isolated the active constituent of the thyroid, and the John Scott Prize and Premium was awarded to him in April, 1921, by the City of Philadelphia for researches in thyroxin. In 1925 he was awarded the Chandler Medal by Columbia University. Dr. Kendall will read a paper on "Physiology of the Thyroid." In view of his original work in connection with this subject, the Section is privileged to have him as its guest.

Episcopal Hospitals of Philadelphia a large series of x-ray prints, drawings, and photographs, illustrating urography as applied to urological diagnosis. There will also be a number of fresh and preserved pathological specimens to illustrate certain gross lesions diagnosed by urographic methods. An automatic projection apparatus will be used to describe certain pathological changes as demonstrated by urographic methods. A demonstrator will be in attendance to explain more in detail any phase of the work that may necessitate special description.

It will be observed that the officers of the Medical Society of the State of Pennsylvania are alive to the educational possibilities in a carefully selected scientific exhibit. They feel that the time is past when curiosities and technical advances in the fundamental sciences comprise the bulk of exhibits like ours, and are bending every effort toward accumulating exhibits which will absolutely compel the attendance of the general practitioner because he simply cannot afford to miss them. It is appreciated that there is a tremendous amount of material offered to the visitor in the four short days of these meetings, and that only those subjects should be offered which will be of value to him. While it is difficult to evaluate the different subjects, the attempt is worth while, and has been made by the exhibit committee. The committee will watch this exhibit with interest to see whether the patronage the demonstrators receive indicates that it has discovered the form of exhibit which the members want.

The membership of this committee includes Drs. John A. Kolmer, John Eiman, Stanley P. Reimann, Edward B. Krumbhaar, and Fred D. Weidman, Chairman.

THE GUEST SPEAKERS

Section on Eye, Ear, Nose, and Throat

Dr. Conrad Berens, New York, N. Y., has interested himself particularly in immunology in its relation to ocular diseases. He has done a great deal of research work on this phase of medicine, and his paper and lantern-slide demonstrations will undoubtedly present the subject in its latest developmental stage. Dr. Berens is affiliated with the following societies: American Medical Association, American College of Surgeons, American Academy of Ophthalmology and Oto-Laryngology, American Ophthalmological Society, and New York Academy of Medicine. He is Senior Assistant Surgeon and Assistant Pathologist, New York Eye and Ear Infirmary; Attending Neurologist, Vanderbilt Clinic; Consultant Ophthalmologist, U. S. Veterans' Bureau; Consultant Ophthalmologist, New York Infirmary for Women and Children; and Directing Surgeon, Ophthalmological Department, Midtown Hospital, New York.

Dr. George L. Tobey, Boston, Mass., has done a great deal of work in recent years on the diagnosis of lateral-sinus thrombosis, particularly in regard to the study of the relation between cerebral- and spinal-fluid pressure and thrombosis. This will be clearly presented in his paper and lantern-slide demonstrations. Dr. Tobey is affiliated with the following societies: Massachusetts Medical Society; American Medical Association; American College of Surgeons; American Otological Society; American Laryngological, Rhinological, and Otological Society; American Academy of Ophthalmology and Oto-Laryngology; and New England Otological and Laryngological Society. He is Surgeon in Otolaryngology at the Massachusetts Eye and Ear Infirmary, Otologist at the Massachusetts General Hospital, Surgeon in Otolaryngology at the New England Deaconess Hospital, and Associate in Otology at the Harvard Medical School.

THE COMMERCIAL EXHIBIT

One of the most interesting features of the State Society meeting is the Commercial Exhibit. It, however, is not so commercial as might be inferred from the name, since the exhibitors are glad to give inquirers the benefit of their technical knowledge and experience with the apparatus demonstrated, and valuable information may be gleaned in most unexpected places.

Practically the whole field of medical and surgical equipment will be represented in this exhibit, and we may justly congratulate ourselves on offering one of the best displays of the type shown in the country.

This year's exhibit is the most ambitious ever attempted by our Society, as a greatly augmented floor space has been assigned for this purpose. Attractive booths will be erected in order to provide uniformity, and a wide space has been left open around the Registration Booth to allow for visiting with friends old and new.

Members who do not want to spare time from their other activities should entirely avoid this department of the session, for once a round of the exhibit is started, the calls of the outside world are forgotten, and the visitor loses himself in the magic of the electrical and x-ray machines, the mystery of light therapy, the fascination of recently published books, the properties of biologicals and pharmaceuticals which have been developed during the past year, the newer studies in nutrition and preventive medicine, and all the multiplicity of astonishing facts which have been discovered and applied. Here is romance in its practical aspect, imagination harnessed to achievement. Unbelievable advances are made from year to

year in the scientific knowledge of disease and its cause, prevention, and cure, and these advances are reflected with surprising promptness by American business firms. Do not fail, then, to see this important annex to the Sesqui-Centennial. Admission free!

A list of the participating firms is appended:

Atomizers

The DeVilbiss Manufacturing Co., Toledo, O.

Biologicals

E. R. Squibb & Sons, New York City.

Blood-Pressure Apparatus

W. A. Baum Co., Inc., New York City.

Books

P. Blakiston's Son & Co., Philadelphia.
F. A. Davis Co., Philadelphia.
J. B. Lippincott Co., Philadelphia.
Peter Reilly Co., Philadelphia.
W. B. Saunders Co., Philadelphia.

Chemicals and Pharmaceuticals

The Abbott Laboratories, North Chicago, Ill.
The Columbus Pharmacal Co., Columbus, O.
Deshell Laboratories, Inc., Chicago, Ill.
Fairchild Bros. & Foster, New York City.
Intravenous Products Co. of America, Inc., New York City, N. Y.
Mallinckrodt Chemical Works, Philadelphia.
The Maltbie Chemical Co., Newark, N. J.
H. A. Metz Laboratories, Inc., New York City.
The National Drug Co., Philadelphia.

Dental Cream

The Pepsodent Co., Chicago, Ill.

Electrical and X-Ray Apparatus and Therapeutic Lamps

M. H. Bresette X-Ray Co., Philadelphia.
H. G. Fischer & Co., Inc., Chicago, Ill.
Hanovia Chemical & Manufacturing Co., Newark, N. J.
Paul E. Johnson, Inc., Chicago, Ill.
The Kelley-Koett Manufacturing Co., Inc., Covington, Ky.
The Liebel-Flarsheim Co., Cincinnati, O.
Thompson-Plaster X-Ray Co., Leesburg, Va.
Victor X-Ray Corporation, Chicago, Ill.
Weber Electric Co., Inc., Philadelphia.

General Supplies for Physicians and Hospitals

A. S. Aloe Co., St. Louis, Mo.
Frank S. Betz Co., Hammond, Ind.

Infant Foods

Abbotts Alderney Dairies, Philadelphia.
The Dry Milk Co., New York City.
Horlick's Malted Milk Corp., Racine, Wis.
Laboratory Products Co., Cleveland, O.
Mead Johnson & Co., Evansville, Ind.
Mellin's Food Co., Boston, Mass.
Merrell-Soule Co., Syracuse, N. Y.

Lactic-Acid Milk

Richards Chemical Co., Glen Olden, Pa.

Malt Extract

Borcherdt Malt Extract Co., Chicago, Ill.

Mineral Water

Kalak Water Co., New York City.

Metabolism Apparatus

Sanborn Co., Cambridge, Mass.

Opticians

American Optical Co., Philadelphia.
McIntire, Magee & Brown Co., Philadelphia.
Wall & Ochs, Philadelphia.

Pharmacist

McKennan Drug Co., Pittsburgh.

Protective Insurance

Medical Protective Co., Fort Wayne, Ind.

Surgical Lights

Cameron's Surgical Specialty Co., Chicago, Ill.

Sterilizers

Wilmot Castle Co., Rochester, N. Y.

Surgical Instruments

Harold Surgical Corp., New York City.
Kloman Instrument Co., Washington, D. C.
E. B. Meyrowitz Surgical Instrument Co., Inc., New York City.
The Geo. P. Pilling & Son Co., Philadelphia.

Surgical and Physiological Supporters

S. H. Camp & Co., Jackson, Mich.
Wm. H. Horn & Brother, Philadelphia.

THE GUEST SPEAKERS

Section on Pediatrics

Dr. A. Graeme Mitchell, Cincinnati, Ohio, was formerly a member of our State Society, having practiced in Philadelphia from 1912 to 1924, during which time he was associated with the Presbyterian and Children's Hospitals. In 1922 he became Associate in Pediatrics at the University of Pennsylvania, and held this position until appointed Professor of Pediatrics at the University of Cincinnati and Chief of the Medical Staff of the Children's Hospital, Cincinnati. In addition to his numerous articles on medical subjects, he collaborated with Dr. J. P. Crozer Griffith in the second edition of "Diseases of Infants and Children," and was a contributor to Forcheimer's "System of Internal Therapeusis." Dr. Mitchell handles his subject in a masterful way, and his discussion on "Focal Infections in Children" will be well worth hearing.

Dr. Isaac A. Abt, Chicago, Ill., Professor of Diseases of Children, Northwestern University Medical School, will be a guest of the Section on October 14th. His reputation as one of the outstanding pediatricians of this country is known to practically every medical man. His numerous publications stamp him as a student, a keen observer, and a clear thinker. Abt's "System of Pediatrics" which has recently been published is probably the most complete and up-to-date of any system of its kind so far presented. Dr. Abt, with his concise, expressive style and his mature ideas built upon years of experience, will discuss "The Pulmonary Lesions of Acute Carditis in Childhood."

Section on Dermatology

Dr. Howard Fox, New York, N. Y., received the degree of B. A. from Yale and that of M.D. from Columbia University College of Physicians and Surgeons in 1898. He is Professor of Dermatology and Syphilology in the New York University Medical School, and Attending Dermatologist to the Bellevue, Lenox Hill, and Willard Parker Hospitals. He is an ex-president of the American Dermatological Association, and corresponding member of foreign dermatological societies. His many notable contributions to dermatology lend added authority to his presentation on ringworm, lesions of which, appearing on the hands and feet and closely simulating eczema, frequently are not recognized by the average practitioner.

PROGRAM

TWENTY-FIRST ANNUAL CONFERENCE OF SECRETARIES

Tuesday, October 12, 1926, 5: 15 P. M.

BELLEVUE-STRATFORD HOTEL
PHILADELPHIA

Chairman, CHARLES P. STAHR, Secretary Lancaster County Medical Society.

Secretary, WALTER E. EGBERT, Secretary Delaware County Medical Society.

1. The Economic Aspect of Nurses' Activities in Medical Practice.

   P. A. NOLL, *Secretary York County Medical Society.*

2. The Duties of a Member of a County Medical Society, and How He Can Make His Society a Success.

   WALTER S. BRENHOLTZ, *Secretary Lycoming County Medical Society.*

3. Reaction to Nine Months' Operation of the Pennsylvania Annual Registration Law.

Each county society secretary present will be allotted one minute in which to report on the results accruing from the enforcement of the above-mentioned law in his county. At the conclusion of these reports, the Conference will be addressed by a representative of the Bureau of Medical Education and Licensure of Pennsylvania.

Dinner, 6: 45 P. M.

Address,

WENDELL C. PHILLIPS, *President American Medical Association.*

(Dinner reservations should be made at the Registration Desk before 3 p. m. Tuesday, October 12. Component society secretaries and officers of the State Society $1.00 per plate. Other members of the State Society will be welcome at $2.50 per plate).

THE PUBLIC MEETING

It has been customary to hold the public meeting on Thursday evening, but this year, in order to permit a larger attendance of our members, it has been decided to have this meeting on Wednesday evening, October 13th, at 8 p. m., in the Ball Room of the Bellevue-Stratford Hotel. The address will be delivered by Dr. Victor Heiser on the subject of "Public Health." Dr. Heiser has done notable public-health work in the United States and several other countries, and is reported by those who have been privileged to hear him as a charming personality and vitally interesting speaker.

PROGRAM OF ENTERTAINMENTS

No city of the State lends itself to a more enjoyable program of entertainments than does the City of Brotherly Love, particularly during the Sesqui-Centennial, and visitors are advised to allow an extra day or two for sight-seeing before or after the meeting. The Committee on Arrangements has announced the following events, subject to slight rearrangement if unforeseen changes in conditions should occur:

Monday evening—Theater party for House of Delegates.

Tuesday afternoon—Reception for women at home of Dr. and Mrs. W. Wayne Babcock.

Tuesday evening—Smoker for men; theater party for women.

Wednesday afternoon—Trip to Navy Yard, with luncheon, for women.

Wednesday evening—President's Reception and Ball.

Thursday afternoon—Trip through park and suburbs, for women.

Thursday evening—Reception at home of Philadelphia County Medical Society.

Every day—Noonday luncheons at home of County Society, for men.

Every day—Golf at the following golf clubs in and around the city: Aronimink Golf Club, Drexel Hill; Bala Golf Club, Bala; Brookline Square Club, Brookline; Cedarbrook Country Club, Mount Airy; Country Club of Lansdowne, Lansdowne; Llanerch Country Club, Llanerch; Marble Hall Links, Inc., Montgomery County; Merion Cricket Club, West Course, Merion; Overbrook Golf Club, Overbrook; St. David's Golf Club, St. Davids; The Spring Haven Club, Wallingford; Tredyffrin Country Club, Paoli. Tickets will be issued at the Registration Booth which will enable the members to select the golf course of their choice, and the only expense will be the caddie's fee.

THE AUXILIARY PROGRAM

The Woman's Auxiliary is now a flourishing and actively functioning organization, and plans have been made for a most interesting meeting during the 1926 session of the State Society. The detailed program appears in this issue of the JOURNAL in the Auxiliary's own department. Our members are requested to call the attention of the women of their families to this program, so that a full attendance may be assured at the opening meetings of the Auxiliary.

LUNCHEONS DURING THE MEETING

The Philadelphia County Medical Society has arranged to serve luncheons every noon hour during the session at the new home of the Society, S. E. Corner of Twenty-first and Spruce Streets, Philadelphia. There will be special speakers for each occasion, as well as an opportunity to greet the old friends and meet new ones. Every visitor to the session will want to see the new building recently dedicated by the County Society, and so should be sure to attend one or more of these luncheons.

AUTOMOBILE ROUTES TO PHILADELPHIA

Pennsylvania's excellent roads will be an inducement to many visitors to the Philadelphia session to make the trip by automobile. For the benefit of these motorists, a map of Pennsylvania roads is reproduced from "Pennsylvania Facts Motorists Should Know," published by the State Department of Highways. The following schedule of numbered roads is also taken from the same publication:

NUMBERED ROADS IN PENNSYLVANIA

In Pennsylvania there are thirteen important trans-State highways—highways reaching all the important centers of population.

In their numerical order these routes are as follows:

Route No. 1—The Lincoln Highway.
Route No. 2—Lackawanna Trail.
Route No. 3—William Penn Highway.
Route No. 4—Susquehanna Trail.
Route No. 5—Lake to Sea Highway.
Route No. 6—From the Maryland line, south of Meyersdale, to the New York line, north of Bradford.
Route No. 7—Roosevelt Highway.
Route No. 8—From the Maryland line, south of Waynesburg, through Pittsburgh to Erie.
Route No. 9—The Yellowstone Trail.
Route No. 11—National Pike.
Route No. 12—Baltimore Pike.
Route No. 13—Philadelphia to Chambersburg, via Reading and Harrisburg.
Route No. 19—Lewistown to Narrowsburg, via Wilkes-Barre and Scranton.

There are 10,300 miles of road on the State Highway system, and these eleven named thoroughfares are within a comparatively few miles of the balance of the highway mileage.

PHILADELPHIA HOTELS

Hotel reservations may be made direct with the following hotels, or through the good offices of the chairman of the Committee on Hotels, Dr. Frederick S. Baldi, Philadelphia County Medical Society Building, S. E. Corner 21st and Spruce Streets, Philadelphia, Pa.

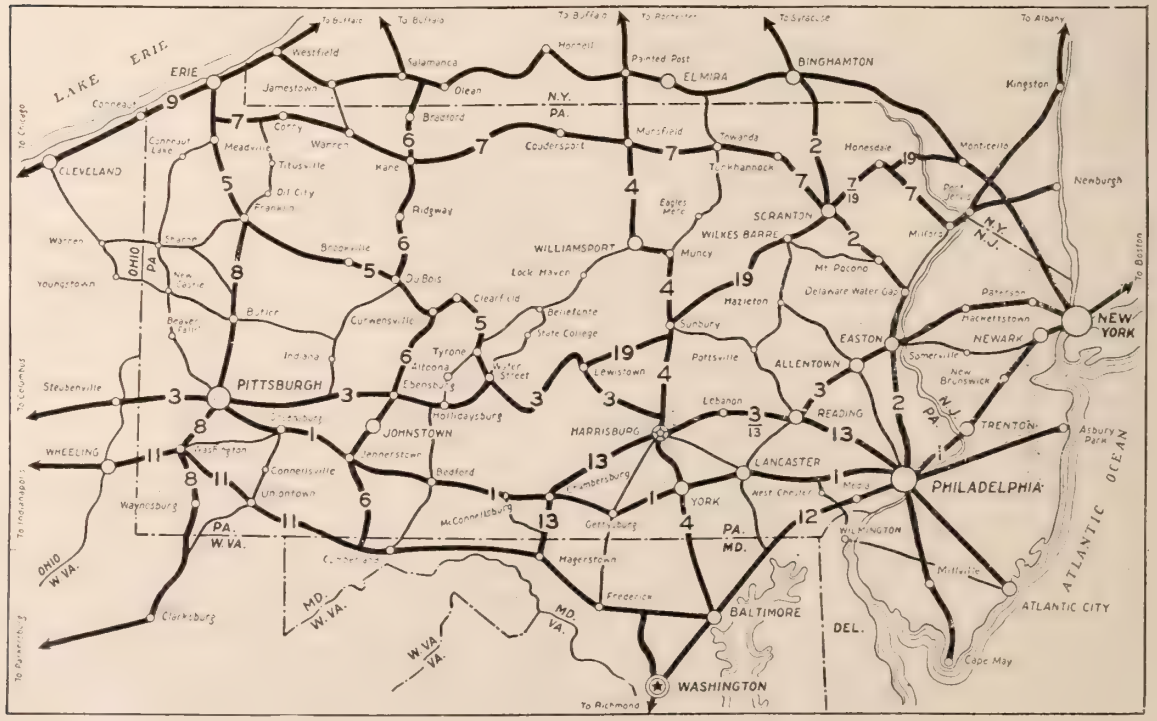
Ritz-Carlton, Broad and Walnut Streets: Double room with twin beds, with bath—$15 per day.

Bellevue-Stratford (Headquarters for meeting), Broad and Walnut Streets: Single room without bath—$4 to $6 per day. Rooms with bath—$5 and upwards. Additional charge of $2 for each extra person in room.

Hotel Adelphia, Thirteenth and Chestnut Streets: Single rooms—$5. Double rooms with two beds and bath—$10. Rooms with three beds—$12.

Hotel Walton, Broad and Locust Streets: Room without bath but with hot and cold running water (one or two persons)—$8 per day. Room with bath (one or two persons)—$10 per day.

Benjamin Franklin, Ninth and Chestnut Streets: $7, $8, and $10 per day for one or more persons.



KEY MAP OF PENNSYLVANIA

This map of Pennsylvania and surrounding states is intended only as a key to the main trans-Pennsylvania thoroughfares and their more important connections. The numbers of the Pennsylvania main roads as shown on this map will be found along the roadside on telephone and telegraph poles; and in the majority of Pennsylvania municipalities these numbers continue as on State highways. The letters "R" and "L" found on telegraph poles under the route number indicate right or left turns.

Hotel Sylvania, Locust and Juniper Streets: $10, $12, and $15 per day for one or two persons.

Hotel Stenton, Broad and Spruce Streets: $6 to $14 per day for two or more persons.

Rittenhouse Hotel, Chestnut above Twenty-second Street: $4 per day per person, suites of rooms, single beds in each room, with private bath accommodating four persons. Other rooms with bath—$5 per day per person.

Windsor Hotel, Juniper and Filbert Streets: Rooms with running water—$3 and $3.50 per day per person. Rooms with bath—$4 per day per person.

Hotel Vendig, Thirteenth and Filbert Streets: Single rooms with bath—$3.50 per day and up. Double rooms with bath—$6 per day and up.

Hotel St. James, Walnut and Thirteenth Streets: Double rooms without bath—$5 per day and up. Double rooms with running water—$8 per day and up. Double rooms with bath—$10 per day and up.

Green's Hotel, Eighth and Chestnut Streets: Single room with running water—$2 per day and up. Single room with bath—$3.50 per day and up. Double room with running water—$3.50 per day and up. Double room with bath—$5 per day and up.

All the foregoing hotels are very centrally located.

The following hotels are a few minutes' trolley ride from the center of the city:

Hotel Pennsylvania, Thirty-ninth and Chestnut Streets: Single rooms with running water, one person—$2.50 and $3 per day. Double rooms with running water, two persons—$4 and $5 per day. Single room, with private bath, one person—$3.50 to $6 per day. Double room, with private bath, two persons—$5 to $7 per day.

Hotel Lorain, Broad and Fairmount Avenue: Rooms accommodating two persons, with running water, $6 per day. Rooms accommodating three persons—$9 per day. Rooms with bath, accommodating two persons—$9 per day; three persons—$12 per day.

Majestic Hotel, Broad Street and Girard Avenue: Rooms with running water—$3 to $6 per day. Rooms with bath—$7 to $15 per day.

PHILADELPHIA GARAGES

The following garages are recommended to our members by the Philadelphia committee:

Aldine Garage, 2027 Sansom Street,
Brown Service Company, 1411 Locust Street,
Correa Garage, 18 S. Twenty-first Street,
Fifteenth Street Garage, 221 N. Fifteenth Street,
M. G. Garage, 1920 Market Street,
New Bellevue Garage, 1125 Locust Street,
Sansom Garage, 2017 Sansom Street,
Stanley Service Garage, 18 S. Twenty-first Street,
Twenty-third Street Garage, 103 S. Twenty-third Street,
U. S. M. C. Garage, Twenty-second and Ludlow Streets,
U. S. M. C. Garage, Twenty-first Street and Parkway,
U. S. M. C. Garage, 337 S. Broad Street,
U. S. M. C. Garage, 1714 Market Street,
U. S. M. C. Garage, 1825 Market Street,
U. S. M. C. Garage, 1433 Manning Street.
Wanamaker Garage, Twenty-third and Walnut Streets,

MEDICAL WOMEN'S DINNER

A subscription dinner will be given by the Philadelphia Club of Medical Women at the Bellevue-Stratford, October 12th at 7:30 p. m., the cost per plate to be $3.50. Checks should be mailed to Dr. Esther M. Weyl, 757 N. Twentieth Street, Philadelphia, Pa.

COMMITTEE ON PUBLIC RELATIONS

There will be a meeting of the Committee on Public Relations in Philadelphia on Monday evening, October 11th, the day preceding the opening meeting of the scientific sessions. Information as to the exact time and place of meeting will be sent out later.

A BRIEF HISTORICAL REVIEW OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY

Our Host for the 1926 Session

A perusal of "The History of the Philadelphia County Medical Society" read at its seventy-fifth anniversary celebration, and published in its Seventy-fifth Anniversary Book, impresses the reader with the great number of instances in which the Society took the lead in suggesting needed reforms or actually inaugurated movements for the betterment of the public health.

Founded on December 11, 1848, with a membership of 47, one of the Society's first acts was to urge "the Legislature of Pennsylvania to enact a law for the registration of marriages, births, and deaths." Although the act was passed, it fell into disuse two years later, and the movement which resulted in the present law originated in 1860 with the Philadelphia County Medical Society. In 1849 a second resolution was passed recommending "that power be granted by the Legislature to each county in the State to provide for the general practice of vaccination."

Connection was established in May, 1849, with the American Medical Association, when five delegates attended its second session, held in Boston. The next year a resolution was passed urging the National organization to alter its constitution so that delegates might be received only from county and state societies instead of from all permanently organized medical societies, colleges, hospitals, and other institutions. It was held that the early form of organization favored the profession in the cities at the expense of the rural districts. This reform was not wholly accomplished until 1903, but the influence of this early agitation cannot be doubted.

Apropos of the new Annual Registration Law, it is interesting to note that in 1850 a committee was appointed by the president of the County Society to procure the enumeration of all the regular and irregular practitioners in the county. In April, 1851, it reported that, "so far as could be ascertained," there were 582 practitioners of all kinds, 397 of them regular physicians and 185 "falling under the heads of several classes of irregular physicians." This statement serves to illustrate not only the tremendous growth of the population, but also the increase in members of the profession, since the present membership of the County Society is approximately 2,000.

Among resolutions passed during its early years which indicated a prevision of present-day policies and tendencies, is one urging the laying out of public parks in the more crowded sections of the city, with a view to lessening infantile diseases during the heated months, and another recommending the investing of the city with entire control of the river front north of Fairmount Dam, with the object of providing an improved water supply.

In 1864 the entire expense of entertaining the State Society was borne by the members of the County Society. It is interesting to note that $457 was collected, of which only $182.70 was disbursed, in comparison with the present approximate disbursement of $8,000 or more for one session, divided between State and County Societies.

The violent controversy in regard to recognition of women physicians seemed to center



The Building of the Philadelphia County Medical Society.

largely in conservative Philadelphia, and it was not until 1888 that the first woman member was admitted.

In 1868 the Society voted to publish its scientific proceedings in a monthly bulletin, each member to receive a copy, but it was not until 1905 that the present *Weekly Roster* was founded by Dr. A. B. Hirsch, inaugurating a union meeting notice of Philadelphia's twenty-four medical societies.

In 1876, the year of the Centennial, the Society invited "our medical brethren of the world to assemble in medical congress at Philadelphia." This congress was presided over by Dr. Samuel D. Gross.

On September 27, 1877, a charter was granted by the Courts and the Society incorporated. The By-Laws were immediately revised in accordance with the requirements of the charter, and important reforms in organization effected. The same year, the formation of a "Mutual Aid Association" was approved, and this organization marked a most important step in the history of the Society.

Of the many movements for the betterment with which the Society or its members were identified there is space for only a bare outline. The Society initiated a successful movement to raise the rank of Army surgeons to the level of those of the Navy. Certain members played a conspicuous part in the movement about 1877 to reform and advance medical education in this country. In 1889 the attention of city councils and State Legislature was earnestly called to the pressing need of inspection of meats and milk used as food, and also the necessity of killing and destroying all animals afflicted with tuberculosis, the owners to be indemnified by the State. In 1892 quarantine by the National Government was urged. In 1897 the act to prevent erection of buildings of excessive height in cities of the first class was endorsed, on account of their ill effect upon health and physical efficiency. In 1898 the necessity was presented to the Mayor and Councils of immediate steps for the filtration of the water supply, in order to prevent typhoid fever. In 1903 the Society petitioned the Legislature to make an appropriation of not less than $500,000 to provide State tuberculosis camps and sanatoria. In 1900, through the efforts of a special committee of the Society, students desiring instruction were admitted to the Municipal Hospital, subject to certain rules.

In 1909 the proposed law governing the practice of medicine in the State and furnishing reciprocity with other states was supported by the Society, and the Committee on Public Policy and Legislation was requested to formulate a plan for a State-wide campaign in the interest of better regulation of the practice of medicine.

In 1917 a resolution was approved endorsing President Wilson's declaration of war, and offer-

ing "ourselves for service in any field into which we shall be called."

An era of expansion in the work of the Society had resulted in 1914 in the appointment of not less than eighteen standing committees with definitely assigned duties. In 1919 the Committee on Medical Education stressed the importance of developing postgraduate teaching in Philadelphia, and suggested that the Society place "Its great influence at the disposal of those who are engaged in organizing graduate teaching in Philadelphia.

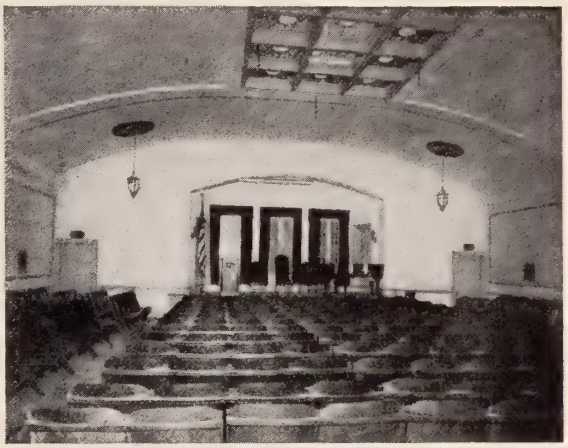
The first presentation of books to the Society occurred in 1878, when twenty-one volumes were donated by H. H. Smith and seven by J. Solis-Cohen. This small library expanded in spite of lack of facilities for caring for contributions, and two branch libraries were also established, one under the auspices of the Northeast Branch, and the other under the auspices of the Southeast Branch. These have now been endowed by a gift of $2,000. In 1912 a Committee on Archives was appointed "to report upon a plan for obtaining and preserving archives relating to the personal records of members of the Society." The problems of proper housing and care were solved recently by the purchase of a home for the Society, and it is planned to maintain here a thoroughly up-to-date medical library.

In 1923 executive headquarters were established in a room in the Real Estate Trust Building, which have since been removed to the County Society Building, the purchase of which is the most important recent event in the history of the Society. The initial step toward the selection of a home was taken in 1910, but it was not until fifteen years later that the movement culminated in the purchase of the property at the corner of Twenty-first and Spruce Streets, under the presidency of Dr. Arthur C. Morgan.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY BUILDING

As one enters the large reception hall, he is confronted by the magnificent staircase with its finely carved baluster and newell post of solid oak bearing a cluster of lights with supports of wrought iron of colonial design. To the left are the executive offices where the multitudinous details of this active society are carried on. Adjacent to the offices is the library, where it is the Society's aim to have on the shelves books not more than ten years old. In other parts of the building older volumes will be kept for reference, and a room on the second floor has now been reserved for this purpose. The library is furnished with comfortable chairs and a long table on which may be found medical journals of all kinds.

To the right of the entrance hall is the reception room which leads to the auditorium. This reception room is a popular rendezvous before and after meetings, where members gather in a social way. In the auditorium, where the meetings are held, the well-appointed stage holds the hand-carved rostrum and a piano, the gift of the Woman's Auxiliary. The auditorium will seat



Auditorium of the Philadelphia County Medical Society.

400 people comfortably, and, by using the reception room and the Board of Director's room, can accommodate 500. It is well lighted by a direct-indirect system, and the acoustics are excellent.

The Board of Directors' room adjoining is remarkable for its beautiful woodwork and fireplace. The ceiling is paneled in solid quartered oak, the wainscoting is of the same material, and no expense was spared to secure furnishings which harmonized.

On the second floor is a suite of rooms for women physicians and members of the Woman's Auxiliary. The rest room is appropriately furnished in wicker.

One room has been reserved for the Committee on Periodic Health Examinations, another for the Committee on Archives, while a third is occupied by the Study Club of the Academy of Stomatology. The remaining room on this floor has been assigned to the Library Committee to be used as an overflow space for books more than ten years old.

In the basement may be found a wardrobe room, a smoking room, a kitchen, and a grill. The latter was built at tremendous expense. It consists of two communicating rooms, the walls of which are plastered in a morene finish. In the kitchen have been installed two Garland

ranges, a cook's table and a steam table, the latest type of coffee urns, and an electrically operated refrigerator. A special system of ventilating has also been installed. With this equipment, the caterer is at all times prepared to serve food for any type of function. The building is efficiently heated by an oil burner.

This building is admirably adapted to make a comfortable home for the County Society, and it is recommended as an excellent example to other societies which may be contemplating the purchase of a home of their own.

THE DOCTOR AND THE SESQUI-CENTENNIAL

WILMER KRUSEN, M.D.*
PHILADELPHIA, PA.

The Sesqui-Centennial International Exposition at Philadelphia presents many features of great interest to the medical profession. It is our purpose to describe briefly these exhibits and their location so that the busy medical man may be aided in seeing as much as possible in a limited time.

The exhibit, arranged by the Committee on Medicine and Allied Sciences, which includes dentistry, pharmacy, and nursing, is placed in the Palace of Education and Social Economy on Pattison Avenue near Broad Street. These divisions have in turn been organized into small though important units under the chairmanship of an expert.

The subdivisions of medicine will show the prevention of contagious and infectious diseases, the prevention of heart and kidney diseases, the prevention of cancer, etc. It has been the object to make this exhibit one easily understood by the average lay mind and to show illustrated medical progress during the past one hundred and fifty years. There is a splendid exhibit showing the whole story of the winning fight against the great white plague and the value of modern methods in the treatment of this dire disease which properly illustrates the value of heliotherapy in treatment.

The American Association for the Prevention of cancer has graphically illustrated how this scourge may be prevented. The State Society of Pennsylvania has recently emphasized the necessity for the reduction in the number of deaths from cardiac disease, and the Heart Association is playing a prominent rôle in this battle by its exhibit.

One feature that is attracting a great deal of attention is the exhibit of the Medical Division of the Department of Public Safety of Philadelphia, prepared under the direction of the Chief Police Surgeon, Dr. Hubley R. Owen. This shows how police and firemen are protected by modern methods in a great municipality.

The Occupational-Therapy Division has selected specimens of handicraft made by those who are physically incapacitated and mentally sick, and are in different institutions of Philadelphia and vicinity. No phase of work is more commendable than this, and the variety shows how the work can be adapted to the ability, mental and physical, of the patient.

The Bronchoscopic Division, arranged under the supervision of that famous laryngologist, Dr. Chevalier Jackson, shows the recently developed work of removing foreign bodies from the air passages, and teaches the lesson to the parent of how carefully to avoid placing dangerous objects within the grasp of the growing child.

The pediatrician will find much of interest in the Child-Health Division, where a city street in the slum district with its many health problems is displayed. The model home is graphically depicted, the best type of lying-in room is shown, and the lesson of child hygiene is taught.

Closely associated with this exhibit are the divisions of bacteriology and immunology, municipal hygiene and public-health administration, domestic hygiene, nutrition, social and industrial hygiene, and entomology. The latter exhibit consists of a number of well-lighted stage pictures showing those insects which are purveyors of diseases and their breeding places and development. The idea of prevention by destruction of these pests is the central thought in this instructive display.

The Interstate Dairy Council has utilized about five hundred square feet to show the handling and treatment of milk, that most vital food, and its relation to health and the prevention of disease.

The Philadelphia County Medical Society, a component part of the State organization, illustrates what coöperation among medical men means to the profession and the public, and emphasizes the value of membership in official medical organizations.

An exhibit that has attracted much attention, particularly of sufferers from hay fever, is one showing the various plants, shrubs, and trees which produce this annoying disease, and informs the public in regard to the prophylactic pollen injections that may be employed. Samples of weeds and grasses have been pressed and placed under glass and hung in the hay-fever booth,

*Director, Department of Public Health, Philadelphia; Chairman, Committee on Medicine and Allied Sciences of the Sesqui-Centennial International Exposition.

with a short description telling the name of the exhibit and the particular section of the United States where it is common.

Both the physician and dentist will be interested in the display of the Department of Dentistry. There is shown among other things an old-fashioned and a modern dental office by way of comparison and contrast. Mouth hygiene and preventive dentistry in children in relation to public health is duly emphasized. The place of the x-ray as an adjunct to modern dentistry is exhibited. The old-fashioned instruments of torture for the extraction of teeth are placed side by side with the more modern instruments. Artificial teeth of great antiquity carved from ivory, porcelain, and walrus tusks are shown, and one shivers in imaginary pain on inspecting the crude instruments in this section plied by men long since dead.

In the Pharmacy Department may be noted with peculiar interest the fixtures and furnishings of the old Glentworth drug store, a type frequently seen in Philadelphia over a hundred years ago. The bird of wisdom—the owl—carved out of a flat board and rusty with age, looks down on the old apothecary shop in heavy brooding silence from his perch near the top of a section of very ancient and stained shelves. Beneath this symbol of the Goddess Athene, used for hundreds of years in European apothecary shops, are old-type shelf bottles, and others that had held the strange mixtures of a superstitious century. Some of those relics came from an old pharmacy which thrust its quaint store windows into the path of Washington and other Colonial celebrities as they passed the corner of Fifth and Chestnut Streets. Washington certainly must have partaken of some of the tinctures, elixirs, and powders dispensed from some of the utensils shown. Old mortars are on display: for instance, there is the original iron mortar and pestle of the old establishment. On the sides of the mortar is the painted date 1784. Some of the powders ground in the mortar still cling to its sides and to the pestle. A great "balance," with pans as large as soup plates, holding porcelain weights, towers over a near-by counter, overshadowing a more modern and more delicately balanced scale. A copper retort of great size—perhaps it's a still—sets on the floor. Many strange experiments must have gone on within its capacious bubbling interior, for it comes down from an age when scientists still thought much of changing the baser metals into gold. There are several mortars and pestles of greater antiquity. One, made of bronze, had been used in the fifteenth century in Switzerland; another was cast in 1689. A crude affair, made of volcanic rock, was used by the early Mexicans; and there is another one bearing the date 1726. On the walls are two oil portraits of one-time vice-presidents of the Philadelphia College of Pharmacy and Science, and Dr. George B. Wood, professor of chemistry in the institution from 1822 to 1831. The portraits are of Henry Troth, who was vice-president for eleven years, dating from 1831, and William Proctor, Jr., from 1867 to 1868. Contrasting with this exhibit is the one adjoining—a modern pharmacy.

The Nursing Exhibit is intended to attract young women to elect this important profession. The preliminary and professional training of the nurse is shown, the scope of her work outlined, and the possibilities for specialization in this field emphasized. Over this display is the quotation of Herodotus: "Neither snow nor rain nor gloom of night stays these couriers from the swift completion of their appointed rounds." The genesis of the nurse is represented by means of figures and printed statements. An attractoscope will show the history of nursing in this and other countries; likewise printed information is distributed to the young woman who is interested in nursing, particularly emphasizing the opportunities after graduation. In this booth is a thoroughly trained, tactful nurse, who will tell the visitor and prospective pupil nurse of the splendid service rendered to humanity by this profession, and will show magazines from twenty-two countries in thirteen different languages devoted to the maintenance of high standards of the nursing profession, whose work was so well exemplified by Florence Nightingale, Alice Fisher, Edith Cavell, and many other devoted women who have given their lives in the alleviation of human suffering.

The State Department of Health under Secretary Miner has arranged a most interesting demonstration of the work of State sanatoria for tuberculous patients. Here again is taught the optimistic value of heliotherapy. The preventive measures valuable in diphtheria are likewise presented, showing charts proving the reduced death rate since the introduction of antitoxin and toxin-antitoxin in the treatment and prevention of this disease. This will be found in the beautiful State Building at the southwest corner of Broad Street and Pattison Avenue.

In quaint little High Street, prepared under the auspices of the Women's Board headed by Mrs. J. Willis Martin, is a duplication of the first infirmary of Philadelphia. In this repro-

duced Colonial street are replicas of the homes of George Washington, Thomas Jefferson, Robert Morris, and others identified with the founding of the nation; Benjamin Franklin's printing and book shop, Stephen Girard's counting house, and the home of Dr. Shippen, a noted Colonial physician—all reflecting the atmosphere of the days when the nation struggled for freedom.

Two exhibits have been installed by the Federal Government which are noteworthy. They are in Building No. 5, the Transportation Building, on South Broad Street near the Navy Yard entrance. The first is that of the United States Veterans' Bureau, of peculiar interest to our doctors who served in the World War. A large map shows the location of all the regional hospital facilities of the United States, and another occupational-therapy exhibit of furniture and handicraft of the incapacitated veterans is shown. The second exhibit of the Federal Government is that of the United States Public Health Service, above which are quotations from great men, as follows: "Public health lies at the very foundation of all human welfare" (Calvin Coolidge); and "Our national health is physically our greatest asset" (Theodore Roosevelt). A set of models showing the vaccination reactions and a delousing station model will be of interest to the health officials of the State.

Just over the way on Pattison Avenue from the Palace of Education there has been erected the "Emergency Hospital." This Emergency Hospital is strictly in the nature of a first-aid station, and all serious cases, after receiving initial treatment, will be transferred to other hospitals. The Emergency Hospital ambulance is used for the rapid handling of all casualties. The hospital has ten beds, and is manned by a staff of competent physicians and nurses supplied by the Philadelphia General Hospital.

The Philadelphia Department of Health has overlooked nothing which will conserve the health and well-being of the visitors to the Sesqui-Centennial Exposition. Food sold on the grounds will be rigidly inspected. The drinking water supply is furnished from the city water mains, and frequently it will be used to sprinkle the grounds to keep down the dust. Sewerage connections are completed, and the prediction may be safely made, with the health of everybody so carefully guarded, that only the unforeseen can interfere with a perfect exposition.

Preference was given to vegetable fats over animal fats, on the basis of digestibility, palatability, caloric value, and variety in diet, by leading health authorities of the country, in a survey conducted by *Medical Life*.

WHAT CONSTITUTES THE MINIMUM EVIDENCE WARRANTING A POSITIVE DIAGNOSIS OF DIABETES MELLITUS?

The following are abstracted replies:

With the introduction of blood-sugar analysis, the standards of diagnosis of diabetes have been refined, and the glucose-tolerance test has replaced our former dependence on urinary analysis.

Hyperglycemia (over .140%) in an individual on normal diet, associated with a fermentable sugar in the urine, warrants a diagnosis of diabetes mellitus, and it is safe to assume that diabetes exists until evidence to the contrary is presented. An elevated blood sugar (over .130%) in a fasting individual (6 hours or more after the preceding meal), with glucose previously demonstrated in the urine, warrants the diagnosis. A blood sugar of .180% or more at the end of an hour after the ingestion of a carbohydrate test meal (85 to 100 grams of carbohydrate in the form of starch or fruits with a general mixed meal) either with or without sugar in the urine, shows that diabetes is present. Hyperglycemia (.140%) in children, with dextrose in the urine, has invariably proved to be diabetes mellitus, provided there is a history of thirst.

The minimum evidence warranting a positive diagnosis of diabetes mellitus is to be found in the urine, combined with the clinical examination of the patient. If any of the clinical symptoms of diabetes, as polydipsia, polyuria, pruritus, skin infections, nerve pains, optic neuritis, loss of strength, and at times, loss of weight, are present, together with the repeated finding of glucose in the urine on a normal carbohydrate intake, one is warranted in making a diagnosis of diabetes mellitus.

In all questionable cases, positive findings following a glucose-tolerance test constitute the minimum evidence warranting a diagnosis of diabetes mellitus. A positive diagnosis of diabetes is often erroneously made, especially in concentrated specimens of urine, when the normal reducing substances in the urine are mistaken for abnormal amounts of sugar.

The persistent finding of fermentable sugar in the urine of a person on an average American diet plus an elevated blood sugar, or a definite hyperglycemia with or without glycosuria following a satisfactory glucose-tolerance test, in the absence of those other conditions frequently causing hyperglycemia, constitutes the minimum evidence warranting a diagnosis of diabetes mellitus.

With a patient about whom there is a question concerning the diagnosis of diabetes mellitus, the best single bit of evidence is obtained from the sugar-tolerance test, using approximately 1.5 gms. of glucose per kilo of body weight on a fasting stomach. The blood sugar is estimated just before ingestion of the glucose, and one and two hours afterwards.

The positive diagnosis of diabetes mellitus requires the demonstration of a limitation in the ability of the body tissues to utilize glucose. This tolerance limit for glucose is definite, and when the glucose-yielding value of the diet exceeds this limit, there is a resulting increase in the glucose content of the blood stream, and usually the appearance of abnormal amounts of sugar in the urine that give a positive reaction to all the tests for glucose.—*California and Western Medicine.*

Fifty per cent of hypertension cases die of heart disease. Therefore, the care of the heart is of paramount importance.

THE MEDICAL SOCIETY

OF THE STATE OF PENNSYLVANIA

OFFICERS' DEPARTMENT

WALTER F. DONALDSON, M.D.
Secretary
8062 Jenkins Arcade B'dg.,
Pittsburgh, Pa.

ANNUAL REPORTS

In this number of the JOURNAL appear the reports for the current year of the 1926 officers, standing committees, and special committees. The painstaking detail with which many of the Society's activities are thus recorded each year not only affords evidence of pride in results attained, but by the same token, expression is given to the hope that many members will read the reports and some perchance comment on them. Among the reports which should be studied in advance by members of the House of Delegates is the report of the Committee on Revision of the Constitution and By-Laws. After reading all the reports for the closing year, you will be in a position to acquiesce with intelligence in the present methods of administering the affairs of your Society or, if not satisfied, you will be better equipped intelligently and constructively to criticize the efforts of your Society's administrators.

ANNOUNCEMENT OF CHANGE IN PROGRAM

It is with great regret that the Committee on Scientific Work announces that on account of ill health Dr. Francis W. Peabody of Boston will be unable to present his paper on "Pernicious Anemia" in the Medical Section, on Thursday, October 14. The officers of the Medical Section, however, have been fortunate in securing for the period previously assigned to Dr. Peabody, Dr. Edward Francis, Surgeon, of the United States Public Health Service, Washington, D. C., who will speak on "Tularemia." Dr. Francis is deserving of great credit for his experimental and clinical work in the recognition of this new and interesting disease. The following is an abstract of the paper he will present:

Pennsylvania, twenty-four other states, the District of Columbia, and Japan have reported 200 cases of tularemia. Wild rabbits constitute the great reservoir of infection. Transmission to man occurs from dressing rabbits, as in market men, cooks, hunters, and housewives. An initial ulcer, enlarged lymph glands, fever, prostration, and prolonged convalescence characterize the illness which is sometimes fatal.

CHANGES IN MEMBERSHIP OF COUNTY SOCIETIES

The following changes have been reported to August 15:

ALLEGHENY: *Reinstated Member*—David M. Dunbar, Buffalo (Wash. Co.). *Deaths*—Louis M. Kridel (Univ. of Penna. '19) drowned Aug. 8, aged 30; George W. McNeil (Jeff. Med. Coll. '74) July 25, aged 76; James H. Whitcraft (Johns Hopkins Univ. '10) July 21, aged 44.

BEDFORD: *Reinstated Member*—Harry A. Shimer, Bedford.

BERKS: *New Member*—Edwin Z. Ruth, Stouchsburg.

BUTLER: *Death*—John S. Campbell, Portersville (Jeff. Med. Coll. '06), July 17, aged 61.

CHESTER: *New Members*—Fred C. Aldridge, Devon; John S. Ammarell, Downingtown.

DAUPHIN: *Removal*—John B. Ziegler from Penbrook to St. Augustine, Florida.

LAWRENCE: *Reinstated Member*—Wayne S. Ramsey, University Hospital, Ann Arbor, Mich. (Resigned to join Michigan State Medical Society).

LEHIGH: *Removal*—Walter C. Brady from Allentown to Slate.

MERCER: *Removal*—Harry C. Blair from Sharon to East Brady (Clarion Co.).

PHILADELPHIA: *Deaths*—Biddle R. Marsden (Hahnemann Med. Coll. '85) recently, aged 62; Herbert H. Cushing (Jeff. Med. Coll. '99) recently, aged 54; George H. Gildersleeve (Univ. of Penna. '99) recently, aged 50.

WARREN: *Removal*—George I. Ireland from Warren to Tyler (Clearfield Co.).

PAYMENT OF PER-CAPITA ASSESSMENT

The following payment of per-capita assessment has been received since July 17. Figures in first column indicate county society numbers; second column, State Society numbers:

July 17	Allegheny	1272	7486	$5.00
22	Chester	69	7487	5.00
Aug. 4	Bedford	16	7488	5.00
7	Fayette	43	7489	5.00
10	Chester	70	7490	5.00
11	Lawrence	67	7491	5.00
12	Berks	131	7492	2.50

County Society Reports

BERKS—JUNE

The society was addressed on June 8th by Dr. Thomas McCrae of Philadelphia, whose subject was "The Ductless Glands."

Dr. McCrae said in part that extracts of the ductless glands may be used either to supply a deficiency or purely as a drug. Thus, pituitrin is used as a drug in stimulating the uterus. The secretions of these glands are poured into the blood stream. The thyroid, however, is most stable. The drugs which by tests on animals have been found useful are extracts of the ovaries, pituitary, thymus, and pineal glands.

Every child overweight at birth has hypothyroidism; so also have children who do not develop mentally. Those who are fat at puberty are deficient in thyroid and pituitary secretion.

Parathyroid feeding in tuberculosis relieves cold feet, controls hemorrhage, and causes râles to disappear. It also relieves pain in acute fibrinous pleurisy, but must be given subcutaneously.

Epinephrin is useful as a drug in emergencies, causing vasoconstriction. It is of little value in edema of the larynx, but appears to have prolonged life in Addison's disease if given in large doses. While it will greatly stimulate the heart when injected intravenously, the speaker would hesitate to use it for this effect.

The ovary secretes two hormones, and the corpus luteum one. The latter inhibits production of pituitrin during pregnancy.

In certain cases the pituitary hormone will control diabetes insipidus. It can be absorbed from the nasal mucous membrane, and severe headache is often relieved by pituitrin administered orally.

CLARA SHETTER-KEISER, M.D., Reporter.

FAYETTE—JULY-AUGUST

The July meeting was observed, as is the annual custom, as an outing, at which no scientific discussions were permitted.

At the August meeting, the subject of "Typhoid Fever" was presented by Dr. J. J. Meechem. The salient features in its etiology and pathology only were mentioned. Its control by rigid oversight of public and private water supply, and the efficacy of antityphoid serums were stressed.

In the discussion, it was shown that the Japanese were the pioneers in testing water supplies for their armies during the Russo-Japanese War. The results were shown to be in marked contrast to the unhappy experience of the armies of the United States during the Spanish-American War.

Vaccines and pure water are making typhoid fever as rare as vaccination has made smallpox.

HARRY J. BELL, M.D., Reporter.

WARREN—AUGUST

The August meeting was held on Monday, the 16th, at Corry. Dr. Arthur G. Davis of Erie, gave a most instructive talk on "Injuries and Deformities of the Vertebra, and their Management." He showed by lantern slides how scoliosis can be prevented, and how it can be remedied by various forms of splints and exercises. Laminectomy and fusion in fractured spine are less successful than extension.

Fracturing the vertebra is rather a common occurrence these days, owing to the frequency of auto accidents, and although the treatment is long drawn out and tiresome, the functional results, under proper casts and rest, are usually good.

Pott's disease, and other tuberculous bone trouble, if seen early, and the patient subjected to prolonged sunlight and quartz-light treatment, gives much better results than formerly. Hunchbacks can be prevented. Painful back after industrial injuries should be x-rayed so as to uncover cartilage and vertebral damages, and then treated by splint and rest, in many cases materially shortening convalescence.

Dr. Davis has had very good results in the treatment of crippled children sent to him through the efforts of the various service clubs, and treated at the Shriners' convalescent cottage in Erie.

The talk showed that the profession too often neglects to consider sufficiently the spinal cases, and these patients tend to develop into hopeless cripples, or become deformed beyond repair.

Dinner was served at the Hotel Corry.

M. V. BALL, M.D., Reporter.

DR. OSLER ON POSTGRADUATE INSTRUCTION

By no means the smallest advantage of our meetings is the promotion of harmony and good-fellowship. Medical men, particularly in smaller places, live too much apart and do not see enough of each other. In large cities we rub each other's angles down and carom off each other without feeling the shock very much, but it is an unfortunate circumstance that in many towns, the friction being on a small surface, hurts and mutual misunderstandings arise to the destruction of all harmony. As a result of this may come a professional isolation with a corroding influence of a most disastrous nature, converting a genial good fellow in a few years into a bitter old Timon, railing against the practice of medicine in general and his colleagues in particular. As a preventive of such a malady, attendance upon our annual gatherings is absolute, as a cure it is specific. But I need not dwell on this point—he must indeed be a stranger in such meetings as ours who has not felt the glow of sympathy and affection as the hand of a brother worker has been grasped in kindly fellowship. .....

Postgraduate instruction is needed in all classes among us. The school for the young practitioner is a general practice in which the number and variety of cases will enable him at once to put his methods into daily use. A serious defect may warp his course from the outset. Our students study too much under the one set of teachers. In English and American schools they do not move about enough. At a tender age, four or five years gives a man a sense of local attachment to place and teachers which is very natural, very nice, but not always the best thing for him. He goes out with a strong bias already in his mind and is ready to cry "I am of Guy's," "I am of Bart's," or "I am an Edinburgh man." To escape from these local trammels which may badly handicap a man by giving him an arrogant sense of superiority, often most manifest when there is least warrant, is very difficult. I knew three brothers, Edinburgh men, good fellows at heart and good practitioners, but for them the science and art of medicine never extended beyond what their old teachers had taught. A Guy's man they could just endure, for the sake, as one of them said, of Bright and Cooper and Addison, but for men of other schools they entertained a supreme and really ludicrous contempt.—*From The Life of Sir William Osler by Harvey Cushing.*

OFFICIAL TRANSACTIONS

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA

Organized 1848 **Incorporated, December 20, 1890**

CALL TO THE 1926 SESSION

The object of this second notice is again to inform the members of the 1926 House of Delegates that in addition to the usual business incident to the annual session, amendments to the Constitution and By-Laws will be brought up for consideration and action. The proposed amendments were published in the July, 1925, ATLANTIC MEDICAL JOURNAL and are also published in the report of the Committee to Revise the Constitution and By-Laws which appears in this number of the JOURNAL.

The first meeting of the 1926 House of Delegates will be held in the Junior Room of the Bellevue-Stratford Hotel, Philadelphia, on Monday, October 11, 1926, at 3 p. m.

COMMITTEES OF THE HOUSE OF DELEGATES

COMMITTEE ON CREDENTIALS

M. Edith MacBride, Sharon, *Chairman.*
Jefferson H. Wilson, Beaver.
James D. Lewis, Scranton.

REFERENCE COMMITTEE ON REPORTS OF OFFICERS AND STANDING COMMITTEES

Carey J. Vaux, Pittsburgh, *Chairman.*
Henry G. Munson, Philadelphia.
George A. Clark, Scranton.

REFERENCE COMMITTEE ON SCIENTIFIC BUSINESS

Adam J. Simpson, Chester, *Chairman.*
Orlando H. Petty, Philadelphia.
John A. Campbell, Williamsport.

REFERENCE COMMITTEE ON NEW BUSINESS

J. Newton Hunsberger, Norristown, *Chairman.*
Arthur E. Crow, Uniontown.
Frank G. Hartman, Lancaster.

COMMITTEE ON PLACE OF MEETING

Charles A. E. Codman, Philadelphia, *Chairman.*
William H. Mayer, Pittsburgh.
John J. Brennan, Scranton.

MEMBERS OF THE HOUSE OF DELEGATES*

ADAMS COUNTY

Chester G. Crist, Gettysburg, President.
J. Percival Dalbey, Gettysburg, Secretary.
Tempest C. Miller, Abbottstown.
William E. Wolff, Arendtsville.

ALLEGHENY COUNTY (PITTSBURGH)

Hugh E. McGuire, Jenkins Arcade, President.
Alexander H. Colwell, 121 University Place, Secretary.
William H. Mayer, Jenkins Arcade.
Franklin B. Miller, Fulton Building.
A. Kipp Weaver, Fourth and Wood Sts., Tarentum.
I. Hope Alexander, Jenkins Building.
Earl P. Gray, 510 Hay St., Wilkinsburg.
Morris A. Slocum, Highland Bldg.
Charles J. Bowen, 4526 Penn Ave.
David P. McCune, 208 Masonic Temple, McKeesport.
Fred M. Jacob, Jenkins Arcade.
Charles B. Maits, Jenkins Arcade.
Robert C. Johnston, Alter Bldg., New Kensington.
Jesse L. Amshel, Jenkins Arcade.
Carey J. Vaux, 526 Larimer Ave.
Thomas C. Mabon, 5446 Kipling Road.
Charles J. Devlin, 7431 Washington Ave., Swissvale.
Robert L. Anderson, Jenkins Arcade.
Henry C. Westervelt, 5306 Westminster Place.
John A. Hawkins, Renton.
Curtis C. Mechling, Jenkins Arcade.
Uriah F. Rohm, 217 E. Main St., Carnegie.
George E. Cramer, 800 Main St., Sharpsburg.
Alexander H. Colwell, 121 University Place.
Marlin W. Heilman, 344 Fourth Ave., Tarentum.
Thomas E. McMurray, 502 Trenton Ave., Wilkinsburg.
James I. Johnston, 4715 Fifth Ave.
Henry T. Price, 121 University Place.
Harvey Bartle, 1155 Liberty Ave.
Harold Miller, 121 University Place.
N. Arthur Fischer, 623 Union Arcade.
S. John S. Fife, Bridgeville.
William H. Guy, Jenkins Arcade.
Samuel I. Glass, 3447 California Ave.
Samuel R. Haythorn, 5431 Baywood St.
George W. McNeil, 6101 Penn Ave.
J. Donald Iams, 6122 Collery St.
Amos W. Colcord, Clairton.
Ernest W. Willetts, Diamond Bank Bldg.
Ralph L. Hill, Woodville.
George L. Beswick, 200 Caldwell Ave., Wilmerding.

ARMSTRONG COUNTY

Charles M. McLaughlin, Freeport, President.
Jay B. F. Wyant, Kittanning, Secretary.
Norval D. Marbaker, Brick Church.
David I. Giarth, Ford City.
Laird F. Kroh, Boarts Bldg., Kittanning.

BEAVER COUNTY

Howard C. McMillan, Aliquippa, President.
Boyd B. Snodgrass, Rochester, Secretary.
Jefferson H. Wilson, Beaver.
Robert M. Patterson, Beaver Falls.

BEDFORD COUNTY

William P. S. Henry, Everett, President.
Norman A. Timmins, Bedford, Secretary.
Harry I. Shoenthal, New Paris.
Walter F. Enfield, Bedford.

BERKS COUNTY (READING)

Howard M. Leinbach, 323 N. Fifth St., President.
John E. Livingood, 249 N. Fifth St., Secretary.
H. Philemon Brunner, 122 Oley Street.
Walter W. Werley, 309 S. Sixth St.
LeRoy W. Frederick, 418 N. Tenth St.

* The offset names are the alternates, and where street address only is given, the name of the city follows the name of the county.

George G. Wenrich, Grandview Sanat., Wernersville.
Frank P. Lytle, Birdsboro.
Clara Shetter-Keiser, 36 N. Tenth St.

BLAIR COUNTY (ALTOONA)

Carey C. Bradin, Tyrone, President.
Charles F. McBurney, 831 Sixth Ave., Secretary.
Harold F. Moffitt, 1115 Twelfth Ave.
John R. T. Snyder, 404 Howard Ave.
Augustus S. Kech, 1410 Twelfth Ave.

BRADFORD COUNTY

Fayette L. Inslee, LeRaysville, President.
Stanley D. Conklin, Sayre, Secretary.
Mahlon B. Ballard, Troy.
Philip H. Schwartz, Towanda.
C. Melvin Coon, Athens.

BUCKS COUNTY

Herman C. Grim, Trumbauersville, President.
Anthony F. Myers, Blooming Glen, Secretary.
J. Fred Wagner, 431 Radcliffe St., Bristol.
Otto H. Strouse, Perkasie.
William S. Erdman, Buckingham.

BUTLER COUNTY

L. Leo Doane, 357 Main St., President.
Ralph W. Walker, Butler, Secretary.
Leslie R. Hazlett, Box 643.
Thomas M. Maxwell, 214 W. Cunningham St.
William J. Armstrong, 330 N. Main St., Butler.

CAMBRIA COUNTY (JOHNSTOWN)

Leo W. Hornick, 415 Locust St., President.
Joseph J. Meyer, 425 Lincoln St., Secretary.
Edward Pardoe, South Fork, Pa.
William J. Reddy, 225 Main St.
Harold Griffith, Johnstown, Pa.
Horace B. Anderson, Johnstown.
Walter C. Raymond, Johnstown.
Ray Parker, Johnstown.

CARBON COUNTY

Edward F. Eshleman, Palmerton, President.
Jacob A. Trexler, Lehighton, Secretary.

CENTER COUNTY

William U. Irwin, Bellefonte, President.
Oscar W. McEntire, Howard, Secretary.
James L. Seibert, Bellefonte.
Lincoln F. Kidder, State College.
Peter Hoffer Dale, State College.

CHESTER COUNTY

Howard Mellor, Sconnelltown, President.
Joseph Scattergood, West Chester, Secretary.
Henry Pleasants, Jr., West Chester.
I. P. P. Hollingsworth, Ch. Co. Hosp., West Chester.
Thomas G. Aiken, Berwyn.

CLARION COUNTY

Albert J. Hepler, New Bethlehem, President.
Charles C. Ross, Clarion, Secretary.
John B. Miller, Sligo.
Charles C. Huston, Knox.
Harrison M. Wellman, St. Petersburg.

CLEARFIELD COUNTY (CLEARFIELD)

George Allen Ricketts, Osceola Mills, President.
John M. Quigley, 922 Dorey St., Secretary.
Ward O. Wilson, 210 N. Second St.
Austin C. Lynn, 122 Presqueisle St., Philipsburg.
Gillespie B. Yeaney, 111 S. Second St.

CLINTON COUNTY

Calvin S. Bauman, Lock Haven, President.
William E. Welliver, Lock Haven, Secretary.
George H. Tibbins, Beech Creek.
David W. Thomas, Lock Haven.
John B. Critchfield, Lock Haven.

COLUMBIA COUNTY

Charles B. Yost, Bloomsburg, President.
Frank R. Clark, Berwick, Secretary.
John W. Bruner, Bloomsburg.
James R. Gemmill, Millville.
Martin W. Freas, Berwick.

CRAWFORD COUNTY

Paul Rastatter, Meadville, President.
Edgar J. Werle, Meadville, Secretary.
J. Charles McFate, Meadville.
Harry Winslow, Meadville.
R. Bruce Gamble, Meadville.

CUMBERLAND COUNTY

Calvin R. Rickenbaugh, Carlisle, President.
Richard R. Spahr, Mechanicsburg, Secretary.
Harry A. Spangler, Carlisle.
Parker W. Wagoner, Carlisle.
David W. Van Camp, Plainfield.

DAUPHIN COUNTY (HARRISBURG)

Edwin A. Nicodemus, 1437 Derry St., President.
W. Minster Kunkel, 601 N. Front St., Secretary.
John B. McAlister, 234 N. Third St.
George B. Stull, 217 Woodbine St.
George R. Moffitt, Harrisburg Hospital.
Herbert F. Gross, 1501 N. Second St.
George F. Gracey, 209 State St.

DELAWARE COUNTY (CHESTER)

George B. Sickel, 516 E. Ninth St., President.
Walter E. Egbert, 601 E. 13th St., Secretary.
C. Irwin Stiteler, Fifth and Welsh Sts.
George H. Cross, Chester.
J. Clinton Starbuck, Media.
Adam J. Simpson, 401 E. Twelfth St.
J. Harvey Fronfield, Media.
J. William Wood, Chester.

ELK COUNTY

Samuel T. McCabe, Johnsonburg, President.
Samuel G. Logan, Ridgway, Secretary.
Samuel G. Logan, Ridgway.
Stanley Barratt, Wilcox.

ERIE COUNTY (ERIE)

Frank P. McCarthy, 110 W. Ninth St., President.
J. William Schilling, 1818 Chestnut St., Secretary.
Frank B. Krimmel, 361 E. Sixth St.
John A. Darrow, 106 W. Ninth St.
Clarence H. Lefever, 805 W. Twenty-sixth St.
Felix W. Shubert, 759 E. Twenty-first St.
Harrison A. Dunn, 230 W. Eighth St.
Orel N. Chaffee, 820 Sassafras St.

FAYETTE COUNTY (CONNELLSVILLE)

Jesse L. McCracken, Smithfield, President.
George H. Robinson, Uniontown, Secretary.
Arthur E. Crow, Uniontown.
David E. Lowe, Uniontown.
Vincent Paul Pisula, Everson.
Harry J. Bell, Dawson.
Albert E. Coughenour, Point Marion.
James E. Van Gilder, Uniontown.

FRANKLIN COUNTY

Benjamin F. Myers, Chambersburg, President.
Ambrose W. Thrush, Chambersburg, Secretary.
Frank N. Emmert, Chambersburg.
W. Edgar Holland, Fayetteville.
J. Burns Amberson, Waynesboro.

GREENE COUNTY

Rufus E. Brock, Waynesburg, President.
Harry C. Scott, Waynesburg, Secretary.
Lindsay S. McNeely, Kirby.
Burdett Clendenning, Waynesburg.
Robert W. Norris, Waynesburg.

HUNTINGDON COUNTY (HUNTINGDON)

Howard V. Locke, Orbisonia, President.
John M. Beck, Alexandria, Secretary.
Cloyd G. Brumbaugh, 805 Mifflin Street.
George G. Harman, 523 Penn St.
Marshall B. Morgan, 723 Washington St.

INDIANA COUNTY

Dunn William Gates, Indiana, President.
James M. Torrence, Indiana, Secretary.
Frank F. Moore, Homer City.
Frank J. Kellam, Ernest.
Elmer E. Onstott, Saltsburg.

JEFFERSON COUNTY

Wayne L. Snyder, Brookville, President.
William A. Hill, Reynoldsville, Secretary.
S. Meigs Beyer, Punxsutawney.
Edward F. Heid, Brockwayville.
Guy M. Musser, Punxsutawney.

JUNIATA COUNTY

William H. Haines, Thompsontown, President.
Brady F. Long, Mifflin, Secretary.
Amos W. Shelley, Port Royal.
Isaac G. Headings, McAlisterville.
Samuel F. Metz, Thompsontown.

LACKAWANNA COUNTY (SCRANTON)

George A. Clark, 223 Connell Bldg., President.
James O'Toole, Connell Bldg., Secretary.
John J. Brennan, 230 S. Main Ave.
W. W. Probst, Dime Bank Bldg.
Merwyn M. Williams, Bliss-Davis Bldg.
James D. Lewis, 204 W. Market St.
Raymond J. Garvey, Minooka.
Arthur E. Davis, Dime Bank Bldg.
Leonard G. Redding, Scranton Life Bldg.
Albert J. Winebrake, 440 Madison Ave.
Howard W. Gibbs, 546 Adams Avenue.

LANCASTER COUNTY (LANCASTER)

Jacob E. Hostetter, Gap, R. D. 1, President.
Charles P. Stahr, 139 E. Walnut St., Secretary.
Frank G. Hartman, 136 N. Duke St.
Walter N. Keylor, Leacock.
Lewis M. Bryson, Paradise.
J. Paul Roebuck, 233 N. Duke St.
Harry B. Roop, Columbia.
Richard Reeser, Columbia.

LAWRENCE COUNTY

Thomas M. Shaffer, New Castle, President.
William A. Womer, New Castle, Secretary.
Loyal W. Wilson, New Castle.
B. W. Lawther, Ellwood City.
Charles F. Flannery, New Castle.

LEBANON COUNTY

Frank D. Zimmerman, Shaefferstown, President.
W. Horace Means, High St., Lebanon, Secretary.
J. DeWitt Kerr, Lebanon.
Seth A. Light, 604 Cumberland St., Lebanon.
John D. Boger, Richland.

LEHIGH COUNTY (ALLENTOWN)

Victor J. Gangewere, 1725 Hanover Ave., President.
J. Treichler Butz, Allentown, Secretary.
Frederick R. Bausch, 109 N. Second St.
Martin J. Backenstoe, Emaus.
William A. Backenstoe, Emaus.
George F. Seiberling, 956 Hamilton St.
Calvin J. Otto, 1314 Hamilton St.
Joseph M. Weaver, 48 S. Tenth St.

LUZERNE COUNTY (WILKES-BARRE)

Peter P. Mayock, 43 S. Washington St., President.
Edward W. Bixby, 292 S. Franklin St., Secretary.
Samuel P. Mengel, 181 S. Franklin St.
Charles L. Shaffer, 219 College Ave., Kingston.
Alfred W. Grover, 256 Maple St., Kingston.
William J. Doyle, 558 Hazel Ave.
Joseph P. Dougherty, 41 N. Main St., Ashley.
Augustine C. Trapold, 239 S. Washington St.
Samuel M. Wolfe, 218 S. Franklin St.
Clarence W. Prevost, 222 Wyoming Ave., W. Pittston.
Stanley L. Freeman, 216 S. Franklin St.

LYCOMING COUNTY (WILLIAMSPORT)

George C. Davis, Milton, President.
Walter S. Brenholtz, 151 E. Third St., Secretary.
John P. Harley, 21 W. Fourth St.
William E. Delaney, 854 W. Third St.
Joseph W. Albright, Muncy.
John A. Campbell, 838 Funston Ave.
Randall B. Hayes, 1225 Allegheny St., Jersey Shore.
J. Frank Gordner, Montgomery.

MCKEAN COUNTY

Joseph A. Kervin, Bradford, President.
Francis DeCaria, Bradford, Secretary.
Homer A. Wilson, Bradford.
Howard M. Cleveland, Mt. Jewett.
Lawrence W. Dana, Kane.

MERCER COUNTY

John E. Ferringer, Stoneboro, President.
Edith MacBride, Sharon, Secretary.
Edith MacBride, Sharon.
Patrick E. Biggins, Sharpsville.
William W. Richardson, Mercer.

MIFFLIN COUNTY

Oscar M. Weaver, Lewistown, President.
James A. C. Clarkson, Lewistown, Secretary.
Charles J. Stambaugh, Reedsville.
Samuel W. Swigart, Lewistown.
Robert T. Barnett, Lewistown.

MONROE COUNTY

J. Anson Singer, East Stroudsburg, President.
Walter L. Angle, East Stroudsburg, Secretary.
William R. Levering, Stroudsburg.
George S. Travis, East Stroudsburg.
Marshall R. Metzgar, Stroudsburg.

MONTGOMERY COUNTY

Wallace W. Dill, Norristown, President.
Edgar S. Buyers, Norristown, Secretary.
Herbert A. Bostock, Norristown.
Philip J. Lukens, Ambler.
John T. Gotwals, Phoenixville (Chester County).
J. Newton Hunsberger, Norristown.
Winfred J. Wright, Skippack.
Albert R. Garner, Norristown.

MONTOUR COUNTY

Donald B. McHenry, Danville, President.
John H. Sandel, Danville, Secretary.
Harold L. Foss, Geisinger Hospital, Danville.
Cameron Shultz, Danville.
Robert S. Patten, Danville.

NORTHAMPTON COUNTY (EASTON)

Clinton F. Stofflet, Pen Argyl, President.
Victor S. Messinger, Easton, Secretary.
Frederick C. Roberts, 1190 Washington St.
H. Crozier Leigh, Easton.
Maurice H. Phillips, Chapmans Quarries, Bath.
William L. Estes, Jr., 819 St. Luke's Place, Bethlehem.
Paul Walter, Bethlehem.
Jacob A. Fraunfelder, Nazareth.

NORTHUMBERLAND COUNTY (SHAMOKIN)

Andrew B. Buczko, New Victoria Bldg., Mt. Carmel, President.
Charles H. Swenk, Sunbury, Secretary.

George W. Reese, State Hospital, Shamokin.
Horatio W. Gass, 910 Market St., Sunbury.

PERRY COUNTY

J. E. Book, Newport, President.
A. Russell Johnston, New Bloomfield, Secretary.
George W. Gault, Marysville.
Benjamin F. Beale, Duncannon.
George H. M. Bogar, Liverpool.

PHILADELPHIA COUNTY (PHILADELPHIA)

Moses Behrend, 1738 Pine St., President.
Henry G. Munson, S. E. Cor. 21st and Spruce Sts., Secretary.
John Welsh Croskey, Aldine Hotel.
John H. Remig, 805 S. Twelfth St.
Damon Pfeiffer, 1822 Pine St.
T. Turner Thomas, 2009 Spruce St.
John F. Roderer, 2426 N. Sixth St.
William Harmer Good, 5415 Rising Sun Ave., Olney.
William B. Scull, 3024 Richmond St.
Elmer H. Funk, 6307 Sherwood Rd., Overbrook.
William N. Johnson, 6430 Germantown Ave.
Henry G. Munson, 4935 Catharine St.
John A. O'Connel, 2128 Pine St.
W. Newbold Watson, 1524 Chestnut St.
Francis F. Borzell, 4910 Frankford Ave.
Robert J. Hunter, 928 N. Sixty-third St.
Samuel A. Savitz, 2031 Pine St.
Clement R. Bowen, 752 S. Sixtieth St.
Abraham I. Rubenstone, 1208 Spruce St.
Mary M. Spears, 2049 Chestnut St.
Frederick S. Baldi, 2117 Porter St.
Arthur J. Zimlick, Greene and Rittenhouse Sts., Gtn.
Charles E. Price, 316 N. Fifty-second St.
J. Ralston Wells, Medical Arts Bldg.
D. Clinton Guthrie, 722 N. Fortieth St.
Richard Powers Wilkinson, 1613 S. Broad St.
Mary Buchanan, 2106 Chestnut St.
Nathan Blumberg, 1922 Spruce St.
William C. Ely, 3912 Chestnut St.
Seth A. Brumm, 818 Stock Exchange Bldg.
J. Ralston Wells, Medical Arts Bldg.
McCluney Radcliffe, 1906 Chestnut St.
F. Hurst Maier, 2019 Walnut St.
James H. Arnett, 2714 N. Eleventh St.
Aaron L. Bishop, 5324 Vine St.
John W. West, 1509 W. Erie Ave.
Henry F. Page, 315 S. Sixteenth St.
John H. Remig, 805 S. Twelfth St.
C. A. E. Codman, 4116 Spruce St.
Francis H. Adler, 313 S. Seventeenth St.
Russell S. Boles, 1711 Spruce St.
H. Leon Jameson, 2133 S. Sixteenth St.
Marion H. Rea, Bryn Mawr.
Joseph C. Doane, Philadelphia General Hospital.
Orlando H. Petty, 6215 Ridge Ave.
Collin Foulkrod, 3910 Chestnut St.
G. Mason Astley, 5317 Master St.
George A. Knowles, 4812 Baltimore Ave.
Louis Edeiken, 1923 Spruce St.
Ralph E. Getelman, 2011 Chestnut St.
S. S. Greenbaum, 1714 Pine St.
L. Waller Deichler, 2028 Chestnut St.
I. W. Hollingshead, 123 S. Eighteenth St.
George C. Yeager, 1419 E. Susquehanna Ave.
William H. Good, Olney.
John A. Kolmer, Cynwyd.
William N. Bradley, 1725 Pine St.
Maurice J. Karpeles, 146 W. Chelten Ave., Gtn.
Harry B. Wilmer, 138 West Walnut Lane, Gtn.
J. Norman Henry, 1906 Spruce St.
Eugene C. Murphy, 1841 S. Broad St.
James P. Mann, 1234 Spring Garden St.

POTTER COUNTY

David E. Jacobs, Coudersport, President.
Ross H. Jones, Coudersport, Secretary.
Ross H. Jones, Coudersport.
A. Jackson Colcord, Port Allegany.
Dwight C. Hanna, Port Allegany.

SCHUYLKILL COUNTY

Albanus S. Ryland, Pottsville, President.
Arthur B. Fleming, Tamaqua, Secretary.
T. LaMar Williams, Mt. Carmel.
J. Spencer Callen, Shenandoah.
David A. Holland, Mahanoy City.
Abram P. Seligman, Mahanoy City.
Joseph Warne, Pottsville.
John L. Hoffman, Ashland.

SNYDER COUNTY

Percy E. Whiffen, McClure, President.
John O. Wagner, Beaver Springs, Secretary.

SOMERSET COUNTY

Charles I. Shaffer, Ralphton, President.
H. Clay McKinley, Meyersdale, Secretary.
Milton U. McEntire, Boswell.
Carl W. Frantz, Confluence.
Clinton T. Saylor, Rockwood.

SULLIVAN COUNTY

George C. Swope, Mildred, President.
Philip G. Biddle, Dushore, Secretary.
Justin L. Christian, 3632 Rutherford St., Harrisburg.
Martin E. Hermann, Dushore.
William H. Randall, 408 Park Avenue, Williamsport.

SUSQUEHANNA COUNTY

Robert H. Mackey, Montrose, President.
Edward R. Gardner, Montrose, Secretary.
Horace D. Washburn, Susquehanna.
Dever J. Peck, Susquehanna.
Franklin Stiles, Great Bend.

TIOGA COUNTY

D. S. Brazda, Blossburg, President.
Solomon P. Hakes, Tioga, Secretary.
Lloyd G. Cole, Blossburg.
William F. White, Wellsboro.
Hiram Z. Frisbie, Elkland.

UNION COUNTY

Amos V. Persing, Allenwood, President.
Charles A. Gundy, Lewisburg, Secretary.
Harry R. Thornton, Lewisburg.
Charles H. Dimm, Mifflinburg.
Oliver W. H. Glover, Laurelton.

VENANGO COUNTY

Audley Ricketts, Oil City, President.
John F. Davis, Box 28, Oil City, Secretary.
Frank E. Coughlin, Franklin.
J. Moorhead Murdoch, Polk.
Rose M. Dunn, Franklin.

WARREN COUNTY (WARREN)

Monroe T. Smith, Warren, President.
Roy L. Young, Warren, Secretary.
Michael V. Ball, Hazel and Fourth Aves.
Robert B. Mervine, Sheffield.
R. F. Otterbein, State Hospital.

WASHINGTON COUNTY

Albert E. Thompson, Washington, President.
Charles C. Cracraft, Claysville, Secretary.
William D. Martin, Dunn's Station, R. D. 2.
Audley O. Hindman, Burgettstown.
James H. Corwin, Washington.
Clarence Crumrine, Wash. Trust Bldg., Washington.
John C. Kelso, Canonsburg.
Samuel A. Ruben, Washington.

WAYNE COUNTY

Edward Burns, Honesdale, President.
Alfred H. Catterall, Hawley, Secretary.

WESTMORELAND COUNTY

William A. Copeland, Vandergrift, President.
Charles D. Ambrose, Ligonier, Secretary.
Walter M. Bortz, Greensburg.
Arthur B. Blackburn, Latrobe.
Levi T. Gilbert, Scottdale.
John Lewis Burkholder, 401 E. Washington St., Mt. Pleasant.
Samuel Brown Gray, Scottdale.

WYOMING COUNTY

Frank J. Austin, Laceyville, President.
Herbert L. McKown, Tunkhannock, Secretary.
William W. Lazarus, Tunkhannock.
George M. Kinner, North Mehoopany.
Van C. Decker, Nicholson.

YORK COUNTY (YORK)

Clarence W. Frey, Dallastown, President.
Pius A. Noll, 117 S. George St., Secretary.
Lawton M. Hartman, 535 W. Market St.
James C. May, 1207 N. George St.
Raymond E. Butz, 103 E. Market St.
Samuel K. Pfaltzgraff, 442 W. Market St.
W. Frank Gemmill, 135 E. Market St.
Gibson Smith, 141 E. Market St.

REPORTS OF OFFICERS

REPORT OF THE SECRETARY

To the President and House of Delegates:

MEMBERSHIP

The total paid membership August 17, 1925, was 7,354; the total paid membership August 17, 1926, was 7,492, with the following component society distribution for 1925 and 1926 respectively: Adams County 27, 26; Allegheny County 1,259, 1,272; Armstrong 56, 53; Beaver 80, 84; Bedford 14, 16; Berks 132, 131; Blair 98, 94; Bradford 45, 39; Bucks 68, 69; Butler 53, 56; Cambria 148, 148; Carbon 30, 31; Center 24, 25; Chester 74, 70; Clarion 28, 26; Clearfield 70, 65; Clinton 26, 23; Columbia 37, 36; Crawford 48, 45; Cumberland 33, 36; Dauphin, 156, 164; Delaware 99, 103; Elk 21, 21; Erie 135, 129; Fayette 133, 127; Franklin 51, 52; Greene 28, 29; Huntingdon 37, 36; Indiana 54, 57; Jefferson 51, 52; Juniata 13, 11; Lackawanna 210, 211; Lancaster 126, 135; Lawrence 57, 67; Lebanon 33, 33; Lehigh 108, 112; Luzerne 255, 274; Lycoming 109, 107; McKean 37, 37; Mercer 73, 73; Mifflin 26, 28; Monroe 14, 15; Montgomery 150, 150; Montour 24, 24; Northampton 130, 136; Northumberland 62, 67; Perry 15, 15; Philadelphia 1,947, 2,062; Potter 15, 14; Schuylkill 135, 142; Snyder 8, 6; Somerset 45, 47; Sullivan 7, 6; Susquehanna 19, 19; Tioga 31, 31; Union 15, 15; Venango 55, 52; Warren 43, 45; Washington 136, 131; Wayne 29, 26; Westmoreland 139, 156; Wyoming 11, 12; York 121, 126.

During the year we lost one hundred eighteen members by death (20 per cent more than 1924 or 1925), thirty-one by removal, and twenty-three by resignation.

Eleven societies show no change in membership; twenty-nine, a gain; twenty-three, a loss. The following counties show a splendid increase in membership for the year: Philadelphia, Luzerne, Westmoreland, Lawrence, Lancaster, Dauphin, and Schuylkill.

MEDICAL DEFENSE

Approved applications for defense against suits for alleged malpractice since September 1, 1925, total four, numbering from Case No. 181 to 184, inclusive:

CASE No. 181.—Application dated October 3, 1925. Plaintiff alleges bad result subsequent to improper treatment of simple fracture right tibia and fibula. Bill of complaint filed. Appearance in behalf of defendant has been made in court.

CASE No. 182.—Application dated August 20, 1925. Plaintiff alleges permanent injury to forearm subsequent to pressure from tight dressing used in treatment of simple fracture of left humerus. Plaintiff's statement filed October 20, 1925. Trial list continued on three occasions. July 9th, by direction of the plaintiff, the case was discontinued. Costs paid by the plaintiff.

CASE No. 183.—Application dated October 5, 1925. Plaintiff alleges malpractice in the use of ultraviolet ray while receiving treatment for facial eczema. This case was nonsuited, May 19, 1926.

CASE No. 184.—Application dated May 21, 1926. Plaintiff alleges death due to failure to exercise proper care, skill, and diligence in treatment of maternity case subsequent to delivery.

There have been the usual number of requests for advice regarding threatened suit, and in several instances requests for application blanks upon which, to date, no return has been made.

The following cases have been closed during the past year:

CASE No. 150.—Original date of application March 27, 1922. After a three days' trial in court a nonsuit was granted. The member thus defended expressed himself as being appreciative not only of payment by the Society of attorney's fee, but as being especially gratified by the support he received in court from his fellow members in his county and State Societies.

CASE No. 177.—After the jury was selected and the case called, the attorney for the plaintiff took a voluntary nonsuit. This makes it possible for the case to be reopened within the statutory period of two years. Such action on the part of the plaintiff, however, is not anticipated.

CASE No. 182.—(See above.)

CASE No. 183.—(See above.)

Our Society is indebted to members and councilors for services rendered in the preparation for conduct of cases throughout the past year, notably Frank L. Todd of Allegheny County and Councilor Litchfield, who served in court in neighboring counties (two and three days respectively), in the conduct of cases Nos. 182 and 150 respectively.

Two applicants for defense were denied any financial assistance because in each instance application was made to the State Society several months after summons had been served and after all papers in connection with the case had been submitted to the commercial insurance company defending the applicants. Our By-Laws require that application must be made for assistance within seven days of the time summons is served.

During the past year we have actually expended $700 in the defense of our members. This amount contrasts favorably with the average expenditure of $1,172 per year during the preceding six years.

In 1924, recognizing the almost utter futility of attempting to defend alleged malpractice in the treatment of fracture, dislocation, or foreign-body cases in which adequate x-ray pictures were not taken before and

after treatment, our Board of Trustees, advised by the Counselor for the State Society, has created and distributed for use release blanks, relieving of legal responsibility, when properly executed, members in attendance upon the above-mentioned class of cases where x-ray pictures for any reason are not made.

PROPOSED AMENDMENTS

Proposed amendments to the Constitution and By-Laws were published in the July and September numbers of the ATLANTIC MEDICAL JOURNAL, and appear also in the 1926 Official Program in the report of the special committee appointed to revise the Constitution and By-laws.

YEARLY COUNCILOR-DISTRICT MEETINGS

For some time the officers of the State Society have been desirous of furnishing, in certain geographical districts throughout the State, an adequate number of district meetings of proper quality to satisfy the demands of our members. They have noted for a number of years the great interest manifested by their members in such meetings when conducted by societies such as the "Central Pennsylvania" or the "West Branch," and we know the amount of energy and money which is of necessity expended in the successful conduct of such meetings.

The proposal to have the annual meetings which have been heretofore sponsored by independent district medical societies throughout the State of Pennsylvania, replaced by annual meetings of the ten councilor districts at present forming the Medical Society of the State of Pennsylvania, is based upon the belief that such societies were organized many years ago because the State Society was at that time unable to serve entirely the wants of its members in certain geographical districts throughout the State.

In recent years, the State Society has developed in sixty-three component county societies a membership of 7,500 members, figures which should be, when considering the subject under discussion, contrasted with the total of forty-nine organized county societies with less than 3,000 members of thirty years ago, when many of the independent societies referred to were organized.

Since, within the last few years our Society has furnished its Secretary's office with the necessary equipment and personnel, and has placed at its command the necessary funds to circularize easily the entire membership of the Society, or any given division thereof, in seventy-two hours, it has been deemed advisable that the State Society should offer its facilities in preparing for the meetings to which we have referred.

We feel safe in asserting that more than ninety-five per cent of the physicians who attend the meetings of the independent societies are members of the State Society, and that most of them would appreciate the opportunity of being relieved of added membership fees and receiving the proposed additional service from the State Society, paying an additional assessment *only* for the social features.

The objection has been raised that a given councilor district may not include the entire geographical district represented in the membership of certain independent societies. The officers of the State Society are eager to serve as many members as possible, as often as possible, and would gladly extend invitations to councilor district meetings to any number of counties adjoining a given councilor district, and to all eligible nonmembers.

In calling this subject to the attention of the House of Delegates, the active coöperation of its members is sought in this endeavor to extend the Society's help in the conduct, throughout the State, of more combined postgraduate and social meetings among physicians.

FINANCIAL REPORT

GENERAL FUND

Balance on hand Sept. 1, 1925		$10,549.52
RECEIPTS		
Membership Allotment (7,676 members, inc. 184 members for 1925).....	$32,464.34	
Journal	11,701.09	
Transferred from Medical Defense, Medical Benevolence and Endowment Funds for investment	5,995.87	
Commercial Exhibit	4,667.20	
Rents	1,650.00	
Reimbursement from Medical Benevolence Fund for vouchers Nos. 50, 92, 120, 168, 206	838.06	
Reimbursement from Medical Defense Fund for vouchers Nos. 137, 171, 222	700.00	
Interest on deposits	314.06	
Medical Society of Delaware, Subscriptions to Atlantic Medical Journal ...	298.00	
Miscellaneous	32.80	
		$58,661.42
		$69,210.94
DISBURSEMENTS		
Publishing Journal & Official Transactions	$22,886.53	
Investments	17,131.65	
Salaries, exclusive of Editor's	9,551.18	
Annual Session	5,677.59	
Transfer of Funds	2,472.97	
Reimbursement Petty Cash Funds	1,094.05	
Officers' Travel Expense	646.80	
Stationery & Supplies	522.78	
230 State Street taxes, repairs, insurance	612.95	
Rent	450.00	
Standing Committees, except Scientific	340.80	
Miscellaneous	169.55	
Woman's Auxiliary	100.00	
Bonding officers	93.75	
		$61,750.60
Balance on hand September 1, 1926		7,460.34

GENERAL FUND—SPECIAL ACCOUNT

Balance on hand September 1, 1925 ...	$10,200.00	
Interest to April 25, 1926	412.08	
		$10,612.08

ENDOWMENT FUND

Balance on hand Sept. 1, 1925	$987.16	
RECEIPTS		
Interest on investments	305.00	
Interest on deposits	9.98	
Transferred from General Fund (net income from rents)	399.41	
		$1,701.55
DISBURSEMENTS		
For investment		$995.87
Balance on hand Sept. 1, 1926		$705.68

MEDICAL DEFENSE FUND

Balance on hand Sept. 1, 1925	$1,972.24	
RECEIPTS		
Interest on investments	1,302.50	
Interest on deposits	60.32	
From membership allotment	1,909.40	
		$5,244.46
DISBURSEMENTS		
For investment	$2,000.00	
Transferred to General Fund in payment of vouchers Nos. 137, 171, 222	700.00	
		$2,700.00
		$2,544.46

MEDICAL BENEVOLENCE FUND

Balance on hand Sept. 1, 1925	$3,120.69	
RECEIPTS		
Interest on investments	814.75	
Interest on deposits	95.50	
From membership allotment	3,818.76	
Contribution—J. Norman Henry	100.00	
		$7,949.70

DISBURSEMENTS

For investment	$3,000.00	
Transferred to General Fund in payment of vouchers Nos. 50, 92, 120, 168, 206	838.06	
		$3,838.06
Balance on hand Sept. 1, 1926		$4,111.64

DISBURSEMENTS

1925

Order No.		
1.	Oct. 6, by cash, Penn-Harris Hotel, rental second floor and parlors, visiting delegates' luncheon, refreshments President's reception	$1,340.00
2.	Oct. 6, by cash, Painter & Andrews, 5 alarm clocks for section meetings	16.85
3.	Oct. 6, by cash, C. Lloyd Major, orchestra for President's reception	85.00
4.	Oct. 6, by cash, Hen. Johnston, Inc. erecting commercial exhibit	750.00
5.	Oct. 6, by cash, John L. Pomering, printing 1,500 registration cards	9.00
6.	Oct. 6, by cash, St. Louis Button Co., buttons and badges	123.70
7.	Oct. 6, by cash, Thomas G. Simonton, Scientific Work Committee, cross word puzzle, attending meeting in May	92.00
8.	Oct. 6, by cash, Walter S. Brenholtz, Expense account—Trustee & Councilor	46.96
9.	Oct. 6, by cash, J. Norman Henry, visit to Sunbury	12.83
10.	Oct. 6, by cash, The Evangelical Press, printing folders	266.48
11.	Oct. 6, by cash, The Evangelical Press, Membership List	260.44
12.	Oct. 6, by cash, Mary S. Blair for rewriting and typing report, Committee on Public Relations	2.00
13.	Oct. 6, by cash, Frederick L. Van Sickle, Harrisburg office	44.00
14.	Oct. 6, by cash, American Surety Co., Secretary's bond	12.50
15.	Oct. 6, by cash, A. W. McCloy Co., section for book case, Secretary's Office	7.75
16.	Oct. 6, by cash, the Evangelical Press, balance due on Sept. Journal	792.11
17.	Oct. 6, by cash, Jenkins Arcade Co. October rent	30.00
18.	Oct. 6, by cash, Mary S. Blair, Agent, October rent	90.00
19.	Oct. 6, by cash, Mary S. Blair, October salary	196.66
20.	Oct. 6, by cash, Hyacinth Beard, October salary	125.00
21.	Oct. 6, by cash, Mary Hunter, October salary	90.00
22.	Oct. 6, by cash, John B. Lowman, Treas. B. & L. Investment, Endowment Fund	100.00
23.	Oct. 6, by cash, Louis Weber & Son, gavel	23.30
24.	Oct. 6, by cash, the Harrisburg Club, balance due on Secretaries' Conference and Dinner	72.85
25.	Oct. 6, by cash, J. P. Lilley, Rental of stereopticon and motion-picture equipment	165.00
26.	Oct. 6, by cash, Mrs. Wm. G. Schooley, assisting at registration booth	16.00
27.	Oct. 12, by cash, Walter F. Donaldson, travel and hotel expense	51.55
28.	Oct. 12, by cash, Ida L. Little, registration bureau, travel & hotel expense, express charges	52.80
29.	Oct. 12, by cash, C. B. Longenecker, Expense Acct., Assistant Secretary	32.85
30.	Oct. 12, by cash, Berryhill Flower Shop, Strawflower design	25.00
31.	Oct. 12, by cash, Funk, DeFiganiere, Arnold & Davis, reporting Surgical and Pediatric Sections	187.04
32.	Oct. 12, by cash, the Evangelical Press, cards and periodic exam. blanks for Com. on Pub. Relations	17.50
33.	Oct. 12, by cash, American Surety Co., Treasurer's bond	37.50
34.	Oct. 12, by cash, Mary S. Blair, clerical work (reimbursement of Petty Cash Fund)	19.55
35.	Oct. 12, by cash, Mary S. Blair, payment of deficit on Section luncheons (reimbursement of Petty Cash Fund)	68.00
36.	Oct. 12, by cash, T. J. Elterich, Exp. Acct., meetings Com. on Scientific Work	54.00
37.	Oct. 12, by cash, Peter Reilly Co., refund on space released	60.00
38.	Oct. 12, by cash, Frederick L. Van Sickle, typing for Committee on Public Relations	2.00
39.	Oct. 12, by cash, the Evangelical Press, printing Official Program, postage, luncheon tickets	329.08
40.	Oct. 12, by cash, Weinig X-Ray Co. Inc., return of space rental	55.00
41.	Oct. 12, by cash, H. E. Willis Bland, erecting scientific exhibit booths	95.88
42.	Oct. 12, by cash, Mae L. Andrews, stenographic services	66.60
43.	Oct. 12, by cash, Frank C. Hammond, honorarium for services as Editor	1,000.00
44.	Oct. 21, by cash, Hugh H. Young, Expense Acct., guest General Session	16.10
45.	Oct. 21, by cash, Irene H. Snyder, reporting House of Delegates and Board of Trustees	248.00
46.	Oct. 21, by cash, Arthur J. Bedell, Expense Acct., guest Eye, Ear, etc., Section,	$32.50
47.	Oct. 21, by cash, Wells P. Eagleton, Expense Acct., guest Eye, Ear, etc., Section	23.86
48.	Oct. 21, by cash, Master Reporting Co. reporting Sections on Dermatology and Medicine	153.78
49.	Oct. 21, by cash, Joseph V. Klauder, Expense Acct., meeting, Com. on Sci. Work	18.52
50.	Oct. 21, by cash, Edw. B. Heckel, Int. on Medical Ben. Fund	195.50
51.	Oct. 24, by cash, the Evangelical Press, October Journal	1,188.48
52.	Oct. 24, by cash, O. H. Perry Pepper, Travel expense, meetings Com. on Sci. Work	25.00
53.	Oct. 24, by cash, George Draper expense account, guest Section on Medicine	28.98
54.	Oct. 24, by cash, Frank C. Hammond, Editor travel expense	50.00
55.	Oct. 26, by cash, W. H. Guy, exp. acct., meetings Com. on Sci. Work	27.00
56.	Nov. 2, by cash, John E. Talbot, exp. acct., guest General Session	36.94
57.	Nov. 2, by cash, Pinkerton's Nat'l Detective Agency, for watchmen	48.00
58.	Nov. 2, by cash, S. Calvin Smith, expenses incurred, Scientific Exhibit	169.43
59.	Nov. 2, by cash, Henry R. Geyelin, exp. acct., guest, Pediatric Section	32.68
60.	Nov. 2, by cash, John A. Rose, deficit on luncheon, Pediatric Section	14.00
61.	Nov. 2, by cash, the Evangelical Press, Periodic Health Examination Blanks	16.50
62.	Nov. 2, by cash, Mary S. Blair, November salary and honorarium as per action of Board of Trustees	296.66
63.	Nov. 2, by cash, Hyacinth Beard, November salary, and honorarium as per action of Board of Trustees	175.00
64.	Nov. 2, by cash, Mary Hunter, November salary and honorarium as per action Board of Trustees	115.00
65.	Nov. 2, by cash, J. B. Lowman, Treas., B. & L. investment, Endowment Fund	100.00
66.	Nov. 2, by cash, Jenkins Arcade Co., Nov. rent	30.00
67.	Nov. 2, by cash, Horner, Doyle, Wright, Co., printing letterheads, etc.	60.00
68.	Nov. 2, by cash, Samuel W. Clausen, exp. acct., guest Pediatric Section	27.62
69.	Nov. 14, by cash, Mae L. Andrews, stenographic services, Journal office	100.00
70.	Nov. 14, by cash, Mary S. Blair, exp. acct., Harrisburg to Phila. & return,	11.68
71.	Nov. 13, by cash, Mary S. Blair, reimbursement for money advanced a/c Mgr. Sessions & Exhibits	8.11
72.	Nov. 13, by cash, the Evangelical Press, Periodic Health Examination Blanks	26.00
73.	Dec. 1, by cash, John L. Pomering, triplicate receipt books	126.75
74.	Dec. 1, by cash, the Evangelical Press, November Journal	1,497.51
75.	Dec. 1, by cash, Walter F. Donaldson, quarterly salary	600.00
76.	Dec. 1, by cash, Frank C. Hammond, quarterly salary, Editor	600.00
77.	Dec. 1, by cash, Mary S. Blair, December salary	196.66
78.	Dec. 1, by cash, Hyacinth Beard, December salary	125.00
79.	Dec. 1, by cash, Mary Hunter, December salary	90.00
80.	Dec. 1, by cash, Ida L. Little, quarterly salary, and honorarium as per action of Board of Trustees	125.00
81.	Dec. 1, by cash, J. B. Lowman, Treas., quarterly salary	62.50
82.	Dec. 1, by cash, B. J. Myers, quarterly salary, Legal Counsel	75.00
83.	Dec. 1, by cash, Jenkins Arcade Company, December rent	30.00
84.	Dec. 1, by cash, J. B. Lowman, Treas., B. & L. investment, Endowment Fund	100.00
85.	Dec. 1, by cash, American Medical Association, Manual of Suggestions for Medical Authors	80.00
86.	Dec. 1, by cash, F. E. Dillan, reporting General Sessions and Section Eye, Ear, etc.	180.92
87.	Dec. 5, by cash, L. Litchfield, exp. acct. Trustee and Councilor	25.82
88.	Dec. 5, by cash, T. B. Appel, exp. acct. Trustee and Councilor	4.50
89.	Dec. 5, by cash, Walter F. Donaldson, exp. acct.	24.65
90.	Dec. 5, by cash, J. Norman Henry, exp. acct., meeting, One Board Bill	13.50
91.	Dec. 5, by cash, J. L. Pomering, letterheads	16.50
92.	Dec. 5, by cash, Edw. B. Heckel, int. on Medical Benevolence Fund	137.50
93.	Dec. 5, by cash, Harry W. Mitchell, exp. acct., Trustee & Councilor	27.34
94.	Dec. 5, by cash, Mae L. Andrews, December salary	100.00
95.	Dec. 5, by cash, the Evangelical Press, P. O. receipts for Journal for November	48.56
96.	Dec. 5, by cash, the Evangelical Press, index cards	6.50
97.	Dec. 5, by cash, Mary S. Blair, Mgr's expenses	100.00
98.	Dec. 5, by cash, Mary S. Blair, typewriter rent, telegrams, & telephone	10.57
99.	Dec. 5, by cash, Mary S. Blair, reimbursement Petty Cash Fund	251.02

Order No.

100. Dec. 5, by cash, Mrs. F. R. Bausch, Treas. Woman's Auxiliary, money paid for printing & postage in pre-organization work, payment authorized by Board of Trustees $100.00
101. Dec. 10, by cash, Pittsburgh office equipment, desk, Secretary's office 31.50
102. Dec. 10, by cash, Ralph L. Hill, exp. acct., meeting Public Relations Com. 20.67
103. Dec. 10, by cash, the Penn Harris Hotel, exp. acct., W. J. Mayo, guest, Surgical Section .. 5.30
104. Dec. 10, by cash, Baker, Young & Co. for investment 5,988.82
105. Dec. 10, Jenkins Arcade Co., January rent 30.00

1926

106. Jan. 8, by cash, Elliott B. Edie, exp. acct., meeting Com. on Public Relations 22.68
107. Jan. 8, by cash, the Evangelical Press, Dec. Journal 1,337.21
108. Jan. 8, by cash, the Evangelical Press, letterheads and clasp envelopes 35.45
109. Jan. 8, by cash, the Evangelical Press, reprints Dr. Hammond's article, and report Com. on Burns 25.34
110. Jan. 8, by cash, the Evangelical Press, printing insert and binding 2 Vols. Atlantic Medical Journal for Committee on Archives 13.00
111. Jan. 8, by cash, Acme Sign Co. glass sign ... 20.00
112. Jan. 8, by cash, Richard P. Strong, exp. acct., speaker, Medical Section 42.40
113. Jan. 8, by cash, John L. Pomering, printing letterheads and statements 68.00
114. Jan. 8, by cash, United States Nat'l Bank, rent safe-deposit box 3.00
115. Jan. 8, by cash, J. B. Lowman, Treas., B. & L. investment, Endowment Fund 100.00
116. Jan. 8, by cash, Jenkins Arcade Company, Feb. rent 30.00
117. Jan. 8, by cash, Mary Hunter, January salary 90.00
118. Jan. 8, by cash, Mary S. Blair, January salary 196.66
119. Jan. 8, by cash, Hyacinth Beard, January salary 125.00
120. Jan. 8, by cash, E. B. Heckel, interest on Medical Benevolence Fund to date 74.34
121. Jan. 8, by cash, Walter F. Donaldson, reimbursement Petty Cash Fund 200.00
122. Jan. 20, by cash, Mae Andrews, January salary 100.00
123. Jan. 20, by cash, E. S. Joseph, insurance ... 54.38
124. Jan. 20, by cash, the Evangelical Press, Jan. Journal 1,503.93
125. Feb. 1, by cash, Mary S. Blair reimbursement Petty Cash Fund 204.44
126. Feb. 1, by cash, Mary S. Blair, Feb. salary .. 196.66
127. Feb. 1, by cash, Hyacinth Beard, Feb. salary 125.00
128. Feb. 1, by cash, Mae Andrews, March salary 100.00
129. Feb. 1, by cash, J. B. Lowman, B. & L. Investment Endowment Fund 100.00
130. Feb. 1, by cash, the Evangelical Press, periodic exam. blanks 53.50
131. Feb. 1, by cash, Jenkins Arcade Co. March rent 30.00
132. Feb. 1, by cash, Walter F. Donaldson, exp. acct., Meeting Board of Trustees 58.07
133. Feb. 1, by cash, Mary Hunter, February salary 45.00
134. Feb. 1, by cash, the Evangelical Press, periodic health exam. blanks 112.50
135. Feb. 1, by cash, G. A. Knowles, exp. acct., meeting Com. on Public Relations 9.50
136. Feb. 1, by cash, Pennsylvania State Chamber of Commerce, dues 25.00
137. Feb. 1, by cash, Frank P. Barnhart, services in Medical Defense Case No. 177 ..... 100.00
138. Feb. 1, by cash, W. W. G. Maclachlan, exp. acct., meeting Committee on Scientific Work 25.12
139. Feb. 1, by cash, Fred D. Weidman, exp. acct., meeting Com. on Scientific Work 8.50
140. Feb. 17, by cash, Z. R. Scott, exp. acct., meeting Com. on Scientific Work 27.00
141. Feb. 17, by cash, Ira G. Shoemaker, exp. acct., President 33.93
142. Feb. 17, by cash, Helen Adams, February salary 70.00
143. Mar. 1, by cash, the Evangelical Press, Feb. Journal 1,536.96
144. Mar. 1, by cash, Walter F. Donaldson, quarterly salary 600.00
145. Mar. 1, by cash, J. B. Lowman, quarterly salary 62.50
146. Mar. 1, by cash, Frank C. Hammond, quarterly salary 600.00
147. Mar. 1, by cash, J. B. Lowman, B. & L. investment Endowment Fund 100.00
148. Mar. 1, by cash, B. J. Myers, quarterly salary 75.00
149. Mar. 1, by cash, Mary S. Blair, March salary 196.66
150. Mar. 1, by cash, Hyacinth Beard, March salary 125.00
151. Mar. 1, by cash, Mae Andrews, salary Feb. 22-28 ..... 25.00
152. Mar. 1, by cash Helen Adams, March salary 70.00
153. Mar. 1, by cash, Ida L. Little, quarterly salary 75.00
154. Mar. 1, by cash, American Surety Company, bond, Mary S. Blair 6.25
155. Mar. 1, by cash, Mary S. Blair, reimbursement for cash adv. for clerical service 5.03

Order No.

156. Mar. 1, by cash, J. T. Bretz, City tax $135.13
157. Mar. 10, by cash, American Surety Co., bond, M. A. Gocher 37.50
158. Mar. 20, by cash, Jenkins Arcade Co., April rent 30.00
159. Mar. 20, by cash, Evangelical Press, envelopes 47.30
160. Apr. 1, by cash, the Evangelical Press, March Journal 1,436.39
161. Apr. 1, by cash, Evangelical Press, printing ... 19.40
162. Apr. 1, by cash, Walter F. Donaldson, exp. acct. 34.56
163. Apr. 1, by cash, J. B. Lowman, B. & L. investment, Endowment Fund 100.00
164. Apr. 1, by cash, Jenkins Arcade Co., May rent 30.00
165. Apr. 1, by cash, Mary S. Blair, Apr. salary 196.66
166. Apr. 1, by cash, Hyacinth Beard, Apr. salary 125.00
167. Apr. 1, by cash, Mae Andrews, April salary 100.00
168. Apr. 1, by cash, E. B. Heckel, interest to date, Medical Benevolence Fund 112.56
169. Apr. 1, by cash, Helen Adams, April salary .. 75.00
170. Apr. 1, by cash, E. C. Rauch, plumbing 68.00
171. Apr. 9, by cash, Sterling, Higbee & Matthews, services in Medical Defense Case No. 150 .. 500.00
172. May 4, by cash, John L. Pomering, printing 54.75
173. May 4, by cash, J. J. Maglauchlin, papering 62.63
174. May 4, by cash, Mary S. Blair, Reimbursement of Petty Cash Fund 261.62
175. May 4, by cash, C. A. Sibbett, painting 20.65
176. May 4, by cash, Evangelical Press, April Journal 1,597.86
177. May 4, by cash, Evangelical Press, printing 80.30
178. May 4, by cash, Mary S. Blair, May salary 196.66
179. May 4, by cash, Hyacinth Beard, May salary 125.00
180. May 4, by cash, Mae Andrews, May salary .. 100.00
181. May 4, by cash, Helen Adams, May salary .. 75.00
182. May 4, by cash, Jenkins Arcade Co., June rent 30.00
183. May 4, by cash, J. B. Lowman, Treas. B. & L. investment, Endowment Fund 100.00
184. May 14, by cash, Frank M. Highberger, drawing of exhibit plan 25.00
185. May 14, by cash, Thomas G. Simonton, exp. acct., Com. Sci. Work 54.00
186. May 14, by cash, Walter F. Donaldson, exp. acct. 27.50
187. June 1, by cash, H. W. Mitchell, exp. account, Trustee & Councilor 27.34
188. June 1, by cash, Joseph V. Klauder, exp. account, meeting Scientific Work Committee .. 9.00
189. June 1, by cash, Evangelical Press, May Journal 1,529.30
190. June 1, by cash, Z. R. Scott, exp. account, meeting Scientific Work Committee 26.00
191. June 1, by cash, Mary S. Blair, June salary 196.66
192. June 1, by cash, Hyacinth Beard, June salary 125.00
193. June 1, by cash, Mae Andrews, June salary .. 100.00
194. June 1, by cash, Helen Adams, June salary .. 75.00
195. June 1, by cash, Ida Little, Apr.-June salary 120.00
196. June 1, by cash, Jenkins Arcade Co., July rent 30.00
197. June 1, by cash, J. B. Lowman, B. & L. inv., Endowment Fund 100.00
198. June 1, by cash, W. F. Donaldson, quarterly salary 600.00
199. June 1, by cash, Frank C. Hammond, quarterly salary 600.00
200. June 1, by cash, B. J. Myers, quarterly salary 75.00
201. June 1, by cash, Harnies & Salsbury, Workmen's Compensation Insurance 10.00
202. June 1, by cash, Evangelical Press, printing, folding, mailing letters (for Committee on Public Health Legislation) 270.45
203. June 1, by cash, O. H. Perry Pepper, exp. account, meetings of Committee on Scientific Work 18.00
204. June 1, by cash, Walter F. Donaldson, Secy., reimbursement Petty Cash Fund 176.97
205. June 9, by cash, J. B. Lowman, quarterly salary 62.50
206. June 9, by cash, E. B. Heckel, int. on Medical Benevolence Fund to date 318.13
207. July 2, by cash, J. T. Bretz, School tax 192.31
208. July 2, by cash, H. F. Oves, County tax 59.85
209. July 2, by cash, Evangelical Press, June Journal 1,453.21
210. July 2, by cash, Evangelical Press, envelopes, paper, etc. 50.50
211. July 2, by cash, Evangelical Press, printing post cards 13.25
212. July 12, by cash, J. B. F. Wyant, exp. account, Trustee 76.71
213. July 2, by cash, Lawrence Litchfield, exp. account, Trustee 25.16
214. July 2, by cash, Howard C. Frontz, expense account, Councilor District Meeting 31.30
215. July 2, by cash, Mary S. Blair, July salary 196.66
216. July 2, by cash, Hyacinth Beard, July salary 125.00
217. July 2, by cash, Helen Adams, July salary ... 80.00
218. July 2, by cash, Jenkins Arcade Co., August rent 30.00
219. July 2, by cash, J. B. Lowman, B. & L. inv., Endowment Fund 100.00
220. July 2, by cash, Mae Andrews, July salary ... 100.00
221. August 1, by cash, Evangelical Press, printing health exam. blanks 112.50
222. August 1, by cash, Samuel I. Spyker, attorney's fee Medical Defense Case No. 182 ..... 100.00
223. August 1, by cash, Mary S. Blair, August salary 196.66

Order No.		
224.	August 1, by cash, Hyacinth Beard, August salary	$125.00
225.	August 1, by cash, Mae Andrews, August salary	100.00
226.	August 1, by cash, Helen Adams, August salary	80.00
227.	August 1, by cash, J. B. Lowman, B. & L.	100.00
228.	August 1, by cash, Jenkins Arcade Co., September rent	30.00
229.	August 1, by cash, Edw. A. Shumway, Treas. Phila. Co. Society, refund acct. Medical Defense 1925-1926 members	535.50
230.	Aug. 1, by cash, Evangelical Press, July Journal	1,451.75
231.	Aug. 1, by cash, Evangelical Press, letter heads,	52.50
232.	Aug. 15, by cash, Endowment Fund, net income from real estate	399.41
233.	Aug. 15, by cash, Evangelical Press, August Journal	1,607.74
234.	Aug. 15, by cash, Evangelical Press, estimated cost of September Journal	1,500.00
235.	Aug. 15, by cash, B. J. Myers, quarterly salary	75.00
236.	Aug. 15, by cash, J. B. Lowman, B. & L. inv., Endowment Fund	100.00
237.	Aug. 15, by cash, J. B. Lowman, quarterly salary	62.50
238.	Aug. 15, by cash, Frank C. Hammond, quarterly salary	600.00
239.	Aug. 15, by cash, Walter F. Donaldson, quarterly salary	600.00
240.	Aug. 15, by cash, Ida L. Little, quarterly salary	120.00
241.	Aug. 15, by cash, Helen Adams, September salary	80.00
242.	Aug. 15, by cash, Mae Andrews, September salary	100.00
243.	Aug. 15, by cash, Mary S. Blair, September salary	196.74
244.	Aug. 15. by cash, Hyacinth Beard, September salary	125.00
245.	Aug. 15, by cash, Evangelical Press, Membership List	268.99
246.	Aug. 15, by cash, Geo. H. Alexander & Co. clasp envelopes	11.03
247.	Aug. 15, by cash, Donald Guthrie, for investment	9,942.83
248.	Aug. 15, by cash, Ira G. Shoemaker, traveling exp. as President	104.04
249.	Aug. 15, by cash, Theodore B. Appel., Councilor visits	38.50
250.	Aug. 15, by cash, W. S. Brenholtz, Councilor visits	72.89
251.	Aug. 15, by cash, M. S. Blair, cash advanced a/c Annual Session	125.00
		$61,750.60

In closing, we wish to express our appreciation of the coöperation received from the officers of this Society and its component societies.

WALTER F. DONALDSON, *Secretary.*

REPORT OF THE TREASURER

September 1, 1925, to September 1, 1926

GENERAL FUND

SPECIAL ACCOUNT (At 4%)

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year....	$10,200.00	
—Interest on deposit	412.08	
		$10,612.08
WITHDRAWALS		.....
BALANCE ON HAND, September 1, 1926		$10,612.08

CHECKING ACCOUNT

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year....	$10,549.52	
—Receipts during year ..	58 661.42	
		$69,210.94

DISBURSEMENTS

By Cash—Paid vouchers No. 1 to No. 251 inclusive	$61,750.60
BALANCE ON HAND, September 1, 1926	$7,460.34

SPECIAL FUNDS

MEDICAL BENEVOLENCE FUND

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year	$3,120.69	
—Receipts during year	4,829.01	
		$7,949.70

DISBURSEMENTS

By cash—Withdrawn for investment and benefits	$3,838.06
BALANCE ON HAND, September 1, 1926	$4,111.64

MEDICAL DEFENSE FUND

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year ..	$1,972.24	
—Received during year ...	3,272.22	
		$5,244.46

DISBURSEMENTS

By Cash—Withdrawn for investment and defense	$2,700.00
BALANCE ON HAND, September 1, 1926	$2,544.46

ENDOWMENT FUND

RECEIPTS

To Cash—Balance on hand at beginning of fiscal year ..	$987.16	
—Received during year ...	714.39	
		$1,701.55

DISBURSEMENTS

By cash—Withdrawn for investment	$995.87
BALANCE ON HAND, September 1, 1926	$705.68

RESUME

TOTAL CASH BALANCES ON HAND AT BEGINNING OF YEAR	$26,829.61	
TOTAL RECEIPTS DURING YEAR	67,889.12	
		$94,718.73
TOTAL DISBURSEMENTS		$69,284.53
TOTAL BALANCES, September 1, 1926		$25,434.20

CASH BALANCES AND INVESTMENTS

September 1, 1926

CASH BALANCES

General Fund, Special Account	$10,612.08	
General Fund, Checking Account	7,460.34	
Medical Benevolence Fund	4,111.64	
Medical Defense Fund	2,544.46	
Endowment Fund	705.68	
Total		$25,434.20

INVESTMENTS

MEDICAL BENEVOLENCE FUND

Registered Liberty Bonds, Third Series, 4¼%, Serial Nos. 70486-7-8-9, Par $1,000.00	$4,000.00
Registered Liberty Bonds, Third Series, 4¼%, Nos. 115909-10, Par $100.00	200.00
Registered Liberty Bonds, Fourth Series, 4¼%, Nos. 198563-4-5-6-7, Par $1,000.00	5,000.00
Coupon Liberty Bonds, 4¼%, Nos. 24777, 444749-50-51	3,500.00
American Telephone & Telegraph —1943, 5½%, Nos. 81983, 59558, 28598-99-600	5,000.00
Chicago, Milwaukee & St. Paul Railway Equipment, Nos. 3360-61-62, Par $1,000.00	3,000.00
Baltimore & Ohio Railroad, 2,000, 5%, Nos. TM 565—566—4504—23853—23854, Par $1,000.00 ..	5,000.00
Total	$25,700.00

MEDICAL DEFENSE FUND

Registered Liberty Bonds, 4¼%, Serial Nos. 324243-4-5, Par $1,000.00	$3,000.00
Coupon Liberty Bonds, 4¼%, Nos. 44727-44728-9-30-31, Par $1,000.00	5,000.00
American Telephone & Telegraph Bonds, 5%, 1946, Nos. 55087-8-9-90-1-2-3-4, 56792-3, Par $1,000.00	10,000.00
Lehigh Valley Railroad, 5%, 2003, Nos. 84178-9-80-81, Par $1,000.00	4,000.00
Coupon Liberty Bonds, 4¼%, Nos. 1382125, 1385611-12-13-14, Par $1,000.00	5,000.00

Penna. R. R. Coupon Bonds, 5%, 1964, Nos. 40892-3-4-5-6, Par $1,000.00	$4,500.00	
Penna. R. R. Nos. 48549-48550, Par $1,000.00	2,000.00	
Total		$33,500.00

ENDOWMENT FUND

Registered Liberty Bond, 4¼%, No. 1653	$5,000.00	
Coupon Liberty Bonds, 4¼%, No. 444726	1,000.00	
Peoples' Building & Loan Assn. Stock, Certificate No. 2478, 100 shares, Matures with 133rd payment, Feb. 19, 1928, value at maturity	20,000.00	
Penna. R. R. Coupon Bond, 5%, 1964, No. 40892	500.00	
American Telephone & Telegraph, 1957, No. M-24901	1,000.00	
Chicago & Northwestern Railroad, 1987, 4¾%, Nos. 32938—34029—37409, Par $1,000.00	3,000.00	
Great Northern Railway, 1976, 4½%, Nos. TM 13526 — 13840, Par $1,000.00	2,000.00	
Total		$32,500.00
TOTAL INVESTMENTS IN SECURITIES HELD BY THE TREASURER		$91,700.00
TOTAL CASH BALANCES AND INVESTMENTS		$117,134.20

(In addition to the above the Society holds title to the property at 230 State Street, Harrisburg, occupied by the office of the ATLANTIC MEDICAL JOURNAL.)

J. B. LOWMAN, *Treasurer.*

REPORT OF THE CHAIRMAN OF THE BOARD OF TRUSTEES

To the President and House of Delegates:

Your Board reorganized October 8, 1925, and elected the undersigned Chairman, and Dr. Walter S. Brenholtz clerk. Dr. Frederick J. Bishop, Scranton, newly elected Councilor from the Second District, was presented to the Board, the undersigned having been reëlected to succeed himself from the Ninth District.

Since the October meeting, the Board has held regular meetings at Harrisburg in December, February, and May. At these meetings routine business was transacted, including conferences with representatives of the Scientific Work Committee, The Public Relations Committee, and the Committee on Public Health Legislation. Brief abstracts of the proceedings of the above meetings of the Board appear in the Secretary's Department of the ATLANTIC MEDICAL JOURNAL for January, March, and June.

During the past year, specially appointed committees of the Board played a very important part in conferences with the Governor of the Commonwealth, representatives from the Board of Medical Education and Licensure of Pennsylvania, and from the State of New Jersey, in bringing about improved relations between the Pennsylvania Board of Licensure and a similar Board representing the State of New Jersey, also the National Board of Examiners.

After careful consideration, your Board, at its May meeting, by unanimous vote, decided to recommend to the House of Delegates unfavorable action upon a petition requesting the creation of a scientific section on urology.

Throughout the year the interim business of the Society has been well handled for the Board of Trustees by the following standing committees: Committee on Finance—Drs. Guthrie (Chairman), Brenholtz, and Bishop. Publication Committee—Drs. Hammond (Chairman), Litchfield, and Appel. Executive Committee—Drs. Mitchell (Chairman), Sharpless and Frontz.

JAY B. F. WYANT, *Chairman.*

REPORT OF THE EDITOR AND THE PUBLICATION COMMITTEE

To the President and the House of Delegates:

There were published twelve numbers for the fiscal year. The Committee wishes to call attention to the steadily increasing usefulness of the JOURNAL.

As the transactions of the annual session do not completely fill the numbers each year, the opportunity is afforded of accepting a limited number of voluntary contributions. We decline such papers unless they contain a distinct message to the profession. We are sorry to say that many voluntary papers would appear to be only for the purpose of bringing the writer before the medical public, and as a rule are carelessly prepared.

From time to time, criticisms have been received of scientific or professional value, and as such have been welcomed, as they tend to raise the literary excellence of the JOURNAL.

The JOURNAL has continued with its established policies, which are of inestimable value to the membership it serves.

Every one directly responsible for the JOURNAL has worked thoughtfully and unselfishly this year. A great deal of splendid work has been done. The advancement of the JOURNAL is due solely to the effort to make it better, and it has not come about by itself.

FRANK C. HAMMOND, *Chairman,*
THEODORE APPEL,
LAWRENCE LITCHFIELD.

REPORT OF THE BUSINESS MANAGER

To the Board of Trustees:

During the past year, satisfactory tenants have continuously occupied the second- and third-floor apartments of the Society's building, and necessary repairs have been provided. The building is at the present time in good condition, and the property is undoubtedly increasing in value.

Arrangements have been made for the Philadelphia session, and plans are practically completed for a larger commercial exhibit than formerly. More floor space was engaged for this feature of the session, larger booths have been plotted, and prices reduced from those prevailing at former meetings, although owing to increased floor space, a greater net income, fully covering the expense, is anticipated. Only a few spaces remain unsold at the present time. A plan is now under consideration whereby JOURNAL advertisers will be given first choice of space in future exhibits.

Owing to the new plan of conducting the program, a much larger number of papers have been published in the JOURNAL for 1925-26. Every effort has been made to conserve space by judicious editing, abstracting of discussions, eliminating fillers so far as possible, and careful planning of make-up. Nevertheless, the number of pages have been increased somewhat. The advertising department has been enlarged by frequent circularization of a large list of prospects and the effective efforts of the Coöperative Medical Advertising Bureau, and the general income has shown a small but steady and gratifying increase throughout the year. An effort has been made to increase the interest of the members in the JOURNAL, not only as a means of holding the ground gained in advertising, but because of its real value to them. This is recommended as the main endeavor for the coming year.

Respectfully submitted,
M. S. BLAIR, *Business Manager.*

REPORTS OF INDIVIDUAL COUNCILORS

DR. FRANK C. HAMMOND, PHILADELPHIA, COUNCILOR FOR THE FIRST DISTRICT

To the President and House of Delegates:

The activities of the First Councilor District during the past year have been along the lines of constructive medicine.

The new home of the Philadelphia County Medical Society was dedicated April 20 and 21, 1926. The scientific programs have been well balanced, and papers have been presented by numerous out-of-town guests. The attendance has been uniformly large, especially since the meetings have been held in the new home of the Society.

The following activities were instituted May 14, 1926: (1) The establishment of a reference library in the new home. (2) A postgraduate course of lectures and demonstrations. (3) In order to instruct physicians in the procedure of making periodic health examinations, a room has been assigned in the new home for the exclusive activities of this very important endeavor. (4) The establishment of a research laboratory.

There have been no definite suits instituted requiring medical defense. The Board of Directors of the Philadelphia County Medical Society has sanctioned the defense of members of the Society who have been arraigned for certain infringements of the narcotic law if, in the opinion of the Board of Directors, they are worthy of defense.

The Philadelphia County Medical Society arranged for the following public-health talks for the general public, on a night other than the stated meetings of the Society: (1) The Health Problems of a Great City. (2) The Social Evil (for men only). (3) Some Phases of Hygiene (for women only). (4) Periodic Health Examinations. The course of popular lectures will be continued during the fall.

DR. FREDERICK J. BISHOP, SCRANTON, COUNCILOR FOR THE SECOND DISTRICT

To the President and House of Delegates:

As Councilor for the Second District, consisting of the Third and Nineteenth Censorial Districts, I wish to report that I have visited all the societies except Northampton. From various reports received, this Society is very active, meetings are very well attended, and the programs are of excellent character. Monroe and Wayne County Societies are not very active, one having a meeting at the call of the President, and the other but four meetings per year.

This year marking my initial attendance at these meetings as Councilor, I have been very much impressed with the attendance, enthusiasm, good fellowship, and intense interest in the scientific programs. In many of the societies, postgraduate courses are being conducted either by the society, groups, or individuals.

On May 11, 1926, I had the pleasure of visiting the Cumberland County Medical Society at Carlisle with President-Elect Albertson, by invitation of Councilor Appel. The meeting was held at the Carlisle Hospital at 8 p. m. The attendance was very good, and an excellent scientific program was provided.

I regret to have to report the institution of one new suit for alleged malpractice, which suit was instituted in Lackawanna County. Of the three suits for alleged malpractice reported by my predecessor, I am pleased to report that the suit in Northampton County for alleged ultraviolet-ray burn was settled on May 19, 1926, by nonsuit. Those in Luzerne and Bucks County are in process of investigation.

No meetings of the Second Councilor District have been held up to this time, but we hope to have two meetings later in the fall.

The Woman's Auxiliary of Lackawanna County had a luncheon meeting in May for the purpose of completing a permanent organization. Over one hundred were present at this meeting, the majority signifying intention to become members or actually becoming members of the organization. The committee in charge was greatly assisted by Mrs. Parke and Mrs. Babcock of Philadelphia, officers of the State Auxiliary, who gave instructive talks on the organization. In the other counties of the Second Councilor District, similar organizations have been formed, or arrangements have been made for the completion of such. On the whole, the District is well organized.

DR. WILLIAM T. SHARPLESS, WEST CHESTER, COUNCILOR FOR THE THIRD DISTRICT

To the President and House of Delegates:

All the county societies in the Third District but one have been visited this year by the Councilor. It is arranged that this society shall be visited before the 1926 State Society meeting.

There is nothing of an unusual character to report. There have been no suits brought against members for alleged malpractice. All the societies in the District are active and doing good work. For the most part, the attendance is good, and it is believed that there is a growing appreciation of the advantages offered to physicians by holding membership in their county societies. A good feeling seems to prevail among the members generally, and no cases of personal or factional differences have been brought to the notice of the Councilor.

It is only fair to call attention again to the great improvement in Schuylkill County Society, where some of the best meetings in the District have been held, and where the spirit among the members seems exceptionally fine.

DR. THEODORE B. APPEL, LANCASTER, COUNCILOR FOR THE FOURTH DISTRICT

To the President and House of Delegates:

I herewith present my report as Councilor for the Fourth Councilor District. The district comprises the Fifth and Sixth Censorial Districts, and includes the County Societies of Dauphin, Lebanon, Lancaster, York, Cumberland, Franklin, and Adams, there being no organized society in Fulton County. The component societies are all in good condition and functioning normally. Their meetings are well attended, and their rolls include practically all the eligible physicians in the district. During the year there have been no applications for medical defense, and there are no cases pending.

It has been the custom for these two censorial districts for many years to hold annual meetings. The Fifth Censorial District met at Lebanon early in July at the Lebanon Country Club. The meeting was well attended both by the physicians and their families. In the Sixth Censorial District the meeting is scheduled for the 26th of August at the Graeffenburg Inn. This

district is particularly well organized. At the annual meeting, each society renders a definite report in regard to its condition and its work during the year, and there is always a well-worked-out scientific program. Owing to the annual meetings of the censorial districts, no Councilor meetings have been held in this district. This year an effort is being made to bring the seven county societies together at the Harrisburg Country Club on the 9th of September. When the subject was discussed in my visits to the several county societies, they were all willing to join in with the meeting, provided it did not interfere with the censorial meetings; but we believe from the spirit evidenced that there will be a good and representative attendance in September.

DR. HOWARD C. FRONTZ, HUNTINGDON, COUNCILOR FOR THE FIFTH DISTRICT

To the President and House of Delegates:

The work of the component county societies of the Fifth Councilor District has progressed during the past year. There has been an increase in the number of clinic days in the hospitals located in the district. This feature has added greatly to the interest in the county societies. The clinics were well attended and helpful. We believe the clinic days on the county society programs should be featured each year. The hospitals in the Fifth Councilor District comprise thirteen general hospitals, one industrial, two miners' (state), one municipal, six private, one state sanatorium for tuberculosis, and one county hospital for mental diseases. These should all be available for clinics and postgraduate instruction except the private hospitals.

The scientific papers of the county society meetings have been up to standard. Annual banquets are now held by most of the county societies. Social features in connection with societies should be encouraged.

The Councilor meeting of this district provided by the new by-laws of the State Society was held at the Huntingdon Country Club, Huntingdon, June 16, 1926. The first address was delivered by Dr. W. Wayne Babcock, of Philadelphia, on "Interpretation of Symptoms of Abdominal Diseases." He was followed by Dr. Harold A. Miller, of Pittsburgh, who spoke on "Morbidity of the Puerperal Woman." Both addresses were followed by discussions and questions. A dinner was served by the ladies of the Country Club. We were then addressed by President Ira G. Shoemaker on the subject of "The State Society"; by President-Elect Harry W. Albertson on "The State Society of the Future"; by Secretary Walter F. Donaldson on "Medical Education"; and by Dr. Walter S. Brenholtz, Councilor for the Tenth District, on "The District Councilor." Nineteen counties were represented, and one hundred thirty-five physicians were present.

The West Branch Medical Association held its annual meeting at the Center Hills Country Club, near State College, on August 4, 1926, with the president, Dr. Peter Dale, of State College, in the chair. Two excellent addresses were delivered, the first by Professor R. A. Dutcher of State College, on "Vitamines," the second by Dr. Thomas G. Simonton of Pittsburgh, on "Gastroenteroptosis."

Appropriate resolutions were passed and ordered sent to Dr. Joseph M. Corson, of Hughesville, relative to his efficient and faithful service as secretary of the Association for twenty-eight years. He is now disabled owing to a prolonged illness. He was elected secretary-emeritus. The meeting was attended by about fifty physicians, and a general good feeling prevailed.

Two medical-defense cases were concluded in the Fifth District during this society year. The plaintiff in each case withdrew the charges.

DR. LAWRENCE LITCHFIELD, PITTSBURGH, COUNCILOR FOR THE SIXTH DISTRICT

To the President and House of Delegates:

In making my annual report for the Sixth Councilor District, I wish to commend especially Allegheny, Westmoreland, and Fayette Counties.

The Allegheny County Society has maintained a very interesting and instructive series of postgraduate lectures, as well as a constantly interesting program at the regular county meetings.

Westmoreland and Fayette County Societies are to be most highly commended for the enthusiasm with which their clinical meetings and regular clinical conferences have been kept up. That these meetings are highly appreciated by the doctors from neighboring and sometimes quite distant county societies is shown by the large attendance. Fayette County Society now has its own meeting place, and is in a fair way to establish a good medical library.

There are still a few counties in the Sixth Councilor District that have not yet waked up to the necessity of monthly meetings.

DR. HARRY W. MITCHELL, WARREN, COUNCILOR FOR THE SEVENTH DISTRICT

To the President and House of Delegates:

The Councilor for the Seventh District is able to report that the societies' activities in all of the counties are being conducted with usual interest, in that meetings are in general well attended and constant efforts are being made to secure increased membership from all available physicians.

For the past three years, members from the Medical Societies of Erie, Mercer, Crawford, and Warren Counties of the Seventh District have united with those of Clearfield of the Fifth District and Venango and Clarion of the Ninth District to hold an annual meeting for which some prominent medical speaker is engaged. Something over one hundred members were in attendance at the meeting this summer, and the social features of the meetings are most enjoyable. There is every indication that this will be made a permanent annual feature.

The year has passed without any important suits for alleged malpractice having been brought to the attention of the Councilor.

DR. DONALD GUTHRIE, SAYRE, COUNCILOR FOR THE EIGHTH DISTRICT

To the President and the House of Delegates:

Conditions in the Eighth Councilor District have been unusually quiet during the past year. There have been no threatened suits for alleged malpractice, and in corresponding with the secretaries, I find that the meetings during the past year have been well and enthusiastically attended. Your Councilor plans to visit Susquehanna, Sullivan, and Wyoming Counties during the coming month, and also expects to attend the Eighteenth Censorial District Meeting, which is to be held in Bloomsburg during September. Efforts have been made during the past year by the component societies to increase their membership.

DR. JAY B. F. WYANT, KITTANNING, COUNCILOR FOR THE NINTH DISTRICT

To the President and House of Delegates:

Circumstances of peculiar type thwarted my plans to visit, during the year, the medical societies of the Ninth District, except those of Armstrong and Venango Counties. Venango County Society held a regular stated meeting on Friday, July 23, 1926, at Saegerstown Inn, a famous, long-established health resort. Thirty-five physicians, each accompanied by that good companion who has gone hand in hand with him, lo these many years, who has comforted him in his disappointments and rejoiced with him in his successes, graced the banquet table loaded with good things.

Venango County Society has fifty-two members, and there are twelve physicians in the county who are not members. There are ten chiropractors in the county. Jefferson County has fifty-two members, holds ten meetings each year, and has five nonmembers and four cultists in the county. Butler County has fifty-five active members. This society holds monthly meetings, except during July and August. Clarion County has thirty-four members and four nonmembers. Their meetings are well attended. Armstrong County Society, which meets monthly, has fifty-three members. Indiana County Society has fifty-nine members, holds twelve meetings each year, and maintains a lively interest in scientific medicine, as well as in public-health topics.

No applications for medical defense have been received during the year.

DR. WALTER S. BRENHOLTZ, WILLIAMSPORT, COUNCILOR FOR THE TENTH DISTRICT

To the President and House of Delegates:

As Councilor for the Tenth Councilor District, I have endeavored to perform the duties of that office during the past year to the best of my ability.

I wish to report that I have visited all of the county societies in the District with the exception of one, that of McKean County. All the societies visited seem to be in flourishing condition and the members very much interested in the work of their particular societies and that of organized medicine. There is one exception to this statement, and that is Union County Society, which, having a small membership, seems to be unable to obtain a quorum at called meetings. At the present time some members are seriously considering the advisability of the Society's disbanding and advising members to join one of the adjoining county societies. McKean County Society was not visited because of the fact that it has been impossible to make any arrangements with the secretary for a visit, the secretary giving as his excuse that the members of the McKean County Society are not sufficiently interested in medical organization to attend meetings or take any part therein.

In November last I attended a union meeting of the Tioga and Potter County Societies at Blossburg, Tioga County, together with President Shoemaker and three members of the Lycoming County Medical Society. This was a very well attended meeting, held in the evening following an excellent dinner. Scientific papers were read by Drs. John P. Harley and J. A. Campbell of Williamsport, and an able address was given by President Shoemaker.

In June of this year, in company with Dr. Shoemaker, I attended a summer outing of the Elk County Society at the Elk County Country Club, to which the members of the McKean and Potter County Societies had been invited. Dr. Shoemaker delivered an address at this meeting, telling of the work of the State Society, and those present seemed to be very much interested in the subject.

"The Duties of a Member of a County Medical Society and How He Can Make His Society a Success," was the subject discussed at the county society meetings which I attended this year.

In November of last year, and in May of this year, the Lycoming County Society held all-day clinical meetings, to which all the members of the surrounding county societies were invited. Clinics were held in the morning at the Williamsport Hospital. Dinner was served later at the Park Hotel, being followed at each meeting by a scientific session at which two scientific papers were read and discussed. These all-day clinical meetings were very well attended, about 110 or 115 physicians being present at each meeting.

There will be no Councilor meeting of the Tenth District this year because of the fact that the West Branch Medical Association, an organization which has been in existence for nearly thirty-five years, and has held annual meetings every year within the district, held its meeting this year on Wednesday, August 4, at the Center Hills Country Club near State College. All the members of the societies composing the Tenth Councilor District were invited.

No suits for alleged malpractice have been threatened in this District during the past five years. Professional relations of the various societies seem to be very amicable, and in no instance have the services of the judicial council been required. The officers of the various societies of this District are to be congratulated upon their activity, and I desire to express my thanks for their support and hearty coöperation.

REPORTS OF STANDING COMMITTEES

COMMITTEE ON PUBLIC HEALTH LEGISLATION

To the President and House of Delegates:

The present year has been an "off" one in legislation. The special session called by the Governor was limited in its scope, and no bills affecting public health or the medical profession were introduced.

There has been no general meeting of the Committee called, as there was no special indication therefor. Considerable correspondence was had between the personnel of the Committee and the State Society's Secretary, whose office has always been happy in response to every call made upon it.

The Medical Legislative Conference has also not held meetings for the same reason. There is a balance in that treasury amounting to a few hundred dollars which will serve as a nucleus for the active work that will be necessary when the State Legislature again convenes.

The new law, imposing an annual tax of one dollar per capita to provide a fund for the use of the State Board of Medical Education and Licensure in prosecuting illegal practitioners, has resulted in some quiet work that has compelled several persons to seek new fields for their crooked work. We are informed by the Secretary of the Board that for the present its efforts will be directed toward unearthing evidence against offenders, and to compel them either to leave the State or to desist from their unlawful actions. Two field workers have been employed.

Your committee was represented by the chairman at the meeting of the Tristate Conference held in New

York, February 26, 1926, a report of that important gathering being printed on page 720 of the ATLANTIC MEDICAL JOURNAL for July. The third meeting, held in Philadelphia on June 21, 1926, was likewise fully reported on page 811 of the August number. These meetings have been valuable in stabilizing the thought and efforts of the officers and committees of the respective societies of New York, New Jersey, and Pennsylvania, and it would seem very desirable to have them repeated at least twice a year.

The House of Delegates at the Harrisburg session assigned to the Board of Trustees the question of recommendations for revision of the medical practice laws, also the differences existing between the State Boards of Pennsylvania and New Jersey, and report of their action will come to you through proper channels.

The importance of the primary nominations during the spring was of more than passing notice. Several county medical societies were supplied with the records of legislators who are up for reëlection bearing upon their attitude and votes at previous sessions, so that some of them, at least, have been reminded of the influence of physicians when the representatives' votes had been adverse to the welfare of the people in general.

The letter sent out by your Committee, which had the unanimous approval of the Board of Trustees, just before the primary nomination for the governorship, intensified the interest of our medical brethren upon the issues at stake. We have reliable information to the effect that our letter changed at least 15,000 votes and virtually decided the nomination. With the probable election of the nominee of the dominant political party in November, the medical profession can feel assured that our greatest interest, namely, the protection of the public in health matters, will be well conserved.

Your Committee reports harmony and good will existing among the several county societies that have been addressed upon public-health topics, and an earnest interest was displayed in these subjects, as evidenced by good discussion on each occasion.

ARTHUR C. MORGAN, *Chairman,*
C. HOWARD WITMER,
EDGAR S. BUYERS,
U. GRANT GIFFORD,
SAMUEL P. MENGEL,
WALTER F. DONALDSON,
IRA G. SHOEMAKER.

COMMITTEE ON PUBLIC RELATIONS

To the President and House of Delegates:

The Committee held two meetings during the year, the reorganization meeting on December 1, 1925, and a second meeting on February 5, 1926. At the first meeting the present officers were elected.

The Committee decided that the promotion of periodic health examinations should constitute its major activity this year. An effort has been made to secure the appointment of a committee on public relations by each county society, and information has been received of the appointment of such a committee in twenty-four counties. An effort is being made to interest all hospitals in health examinations with the object of having nurses and employees examined annually.

During the year, four hundred members of our Society, including the entire membership of Berks County Medical Society, purchased the "Manual of Suggestions for the Conduct of Periodic Examinations" and a total of 40,000 blanks.

The Committee will participate in the presentation of the educational display on preventive medicine at the Philadelphia Sesqui-Centennial.

The Committee has arranged for the reading of papers on some aspects of health examinations at the general session of the State Society, and for demonstrations of examinations as a part of the scientific exhibit.

The Committee expects to continue its efforts to have the county societies promote health examinations, and to extend practical assistance to the county society committees in their work of interesting practitioners and preparing them to make efficient health examinations.

WILMER KRUSEN, *Chairman,*
ELLIOT B. EDIE, *Secretary,*
WALTER M. BORTZ,
FRANCIS J. DEVER,
FRANK G. HARTMAN,
LAWRENCE LITCHFIELD,
FREDERICK L. VAN SICKLE,
E. J. G. BEARDSLEY,
RALPH HILL,
IRA G. SHOEMAKER,
HARRY W. ALBERTSON,
WALTER F. DONALDSON,
JAY B. F. WYANT,
DONALD GUTHRIE.

COMMITTEE ON SOCIETY COMITY AND POLICY

To the President and House of Delegates:

Our Committee has had no business referred to it since our last report, and therefore has held no meetings. Our report as a nominating committee of representatives from our Society to the House of Delegates of the American Medical Association will be presented October 13, 1926.

HENRY D. JUMP, *Chairman,*
CLOY G. BRUMBAUGH,
WILLIAM L. ESTES,
JOHN B. MCALISTER,
JEFFERSON H. WILSON.

COMMITTEE ON MEDICAL BENEVOLENCE

To the President and House of Delegates:

There have been but two members who have received aid from the Medical Benevolence Fund during the past year. We believe that in both of these cases the aid has been properly applied and has been very much appreciated.

The members of the State Society are very reticent about applying for aid, and it is urged upon the Society that the resources of the Medical Benevolence Fund be made known to the members generally. If any one suspects that another member needs aid, he should promptly bring the matter to the notice of the Committee. It is suggested that Councilors and other officers, in visiting the county societies, bring this matter to their notice, as we believe there are many members who should receive aid from this fund whose need has not been made known.

The following is the report of the treasurer of this Committee:

Receipts

Balance in bank June 30, 1925	$186.41	
Received from Treasurer, Aug. 10, 1925	211.88	
Received from Treasurer, Nov. 10, 1925	195.50	
Received from Treasurer, Dec. 19, 1925	137.50	
Received from Treasurer, Jan. 28, 1926	74.37	
Received from Treasurer, Apr. 14, 1926	112.56	
Received from Treasurer, June 22, 1926	318.13	
		$1,236.35

Disbursements

August 10, 1925	$180.00	
September 20, 1925	200.00	
January 16, 1926	135.00	
March 31, 1926	150.00	
June 29, 1926	160.00	
		$825.00

June 30, 1926, Balance in bank.....$411.35

WILLIAM T. SHARPLESS, *Chairman,*
E. B. HECKEL, *Treasurer,*
HOWARD C. FRONTZ,
WALTER F. DONALDSON.

COMMITTEE ON PROMOTION OF EFFICIENT LAWS ON INSANITY

To the President and House of Delegates:

The Committee desires to report that there has been no activity of this committee in the current nonlegislative year. Important matters will, unquestionably, come before the next Legislature which will require the close attention of the Committee and general aid from the medical profession.

Compensation rates for the support of the indigent insane will necessarily be considered by the next Legislature, and must be fixed at a figure comparable with the increased cost of employment and the high cost of supplies. The State accommodations for care of the mental group including defectives and delinquents, never adequate for all requirements, have not been expanded in the last decade in proportion to the call that is made for the admission of patients. It is seemingly impossible to increase the bed capacity adequately with biennial appropriations.

The initial steps in securing the passage of a $50,000,000 bond issue were taken by the last Legislature and will again be considered at the 1927 session. Favorable consideration of this measure is essential for the necessary development of hospital facilities. New York State, with a much higher ratio of beds to committable cases, is now expanding its accommodations by means of the funds furnished by a bond issue of the same amount. Pennsylvania can do no less if it desires to meet its obligations adequately.

HARRY W. MITCHELL, *Chairman,*
OWEN COPP,
J. ALLEN JACKSON,
EDWARD E. MAYER.

COMMISSION ON CONSERVATION OF VISION

To the President and House of Delegates:

Your Commission reports no legislative activity during the year in which its coöperation as a committee was required.

Although the measures thus far put into operation in the State for the protection of vision in industrial plants have been pretty generally adopted, especially by the larger firms, many apparently preventable eye injuries are receiving treatment in hospitals and in private practice. As advisers to, and guardians of, the general public in matters of health and welfare, it would seem that more general insistence on the part of physicians that the regulations advised for the protection of employees be carried out would do much toward the general adoption of safety measures. To this end, therefore, your Commission would recommend that each physician become interested in this phase of public welfare in his own community, and coöperate in an advisory capacity with industrial firms, as well as with those of his clientele who are exposed to the dangers of industrial visual loss.

As a further aid in this direction, your Commission would recommend to all physicians, and especially to those who are doing industrial work, that they use their good offices and influence toward the securing for their patients with eye injuries competent first-aid and follow-up treatment. Visual loss in industrial cases is as often contingent upon inadequate and indifferent first-aid treatment as it is upon the character of the injury received. It therefore becomes of economic value to the patient, to the employer, and to the physician, as well as to the insurance carriers, to furnish such expert first aid as will reduce visual loss to a minimum.

In the securing of maximum efficiency in industrial visual conservation, the physician can increase the value of his services to his own community by becoming genuinely interested and active in this field in which he is preëminently qualified to speak and advise authoritatively.

LUTHER C. PETER, *Chairman,*
GEORGE S. CRAMPTON,
JOHN B. CORSER,
GEORGE H. CROSS,
CHARLES S. REBUCK,
HOWARD M. RITTER,
HUNTER H. TURNER.

COMMISSION ON CANCER

To the President and House of Delegates:

During the past year the chief activity has been toward the establishment of cancer clinics, principally as departments of the State clinics now established in most of our cities and larger towns. This has been rather hard work.

The entire Commission met once in Philadelphia and studied the situation there, and believe that they all are well equipped and that the situation in Philadelphia is sufficiently well handled for the present. A personal visit of some of the members of the Commission to Pittsburgh found the situation to be about the same as in Philadelphia.

The greatest need for cancer clinics seems to be in the smaller cities. So far, we have succeeded in establishing clinics in Bethlehem, Williamsport, and Scranton. These clinics are still functioning and doing considerable good. It is suggested that this be the principal line of endeavor of this commission for the next several years. Pennsylvania probably leads the United States in its efficiency in clinics for tuberculosis, genito-urinary diseases, etc., and we hope it will soon lead in cancer clinics also.

JONATHAN M. WAINWRIGHT, *Chairman,*
RICHARD J. BEHAN,
JOSEPH D. FINDLEY,
ALBERT F. HARDT,
EDWARD B. HODGE,
GEORGE B. KUNKEL,
WILLIAM P. WALKER.

COMMITTEE ON DEFENSE OF MEDICAL RESEARCH

To the President and House of Delegates:

Public-health laws not having been mentioned in the call of the special session of the Legislature in 1926, no legislation involving medical research was introduced.

No business has been referred to the Committee since our last report. We believe, however, that the Committee should be continued.

JAMES D. HEARD, *Chairman,*
JOSHUA E. SWEET,
DAVID DALE.

COMMITTEE ON ARCHIVES

To the President and House of Delegates:

Since its last report the Committee has thankfully received and filed a five-hundred-page, handsomely bound history of the Massachusetts Medical Society from 1781 to 1922. This history was briefly reviewed in the January number of the ATLANTIC MEDICAL JOURNAL.

We note that the Cambria County Medical Society is actively at work in the preparation of a history which will no doubt contribute to the preparation of the history of our State Society yet to be written.

During the year, appropriate application blanks were printed for the use of members desiring temporary possession of books or pamphlets from the Committee's shelves at Harrisburg.

WALTER F. DONALDSON, *Chairman,*
JACOB S. HACKNEY,
GEORGE HETRICH.

REPORTS OF SPECIAL COMMITTEES

COMMITTEE TO CONFER WITH MORTICIANS

To the President and House of Delegates:

This Committee has served the purpose for which it was appointed, and has established an *entente cordiale* between the physician and the mortician. We therefore recommend that the Committee be discontinued. In order, however, that the situation may be kept in hand, the Committee recommends that its Chairman, Dr. Frank C. Hammond, be appointed a liaison officer between the State Society and the Pennsylvania Association of Funeral Directors.

It is of interest to note that during the year the State Medical Society of Massachusetts carried on a campaign with the morticians of that State very similar to the procedure adopted by our State Society.

The Committee greatly regrets that with all the work it has done, many hospitals cannot be aroused from their lethargy in regard to the necessity for increasing the number of postmortems each year. Those hospitals on the approved list that continue to show an indifference to this phase of scientific medicine may be removed from the list by the American College of Surgeons. It is urged that the hospitals take cognizance of this serious situation.

FRANK C. HAMMOND, *Chairman,*
DAVID W. THOMAS,
JOSEPH C. DOANE.

COMMISSION ON COMPENSATION LAWS

To the President and House of Delegates:

Your Commission has, this year as in the past, endeavored to keep in touch with changes in the State compensation laws as well as new decisions interpreting the law. In this connection, the only noteworthy change has come through a decision by the Supreme Court of the State of Pennsylvania decreeing that regardless of the time of death due to injury, the employer is responsible for funeral, medical, and hospital expenses. In the past, the law was interpreted as intending that funeral expenses alone, to the limit of $100, should be paid in case death occurred within ten days. In the light of this decision, proper medical and hospital fees (within the limit of the law) may be charged and collected when death has occurred within the first ten days following accident, as well as after the first ten days following accident.

This is one of the points on which your Commission recommended that action be taken for clarification when it presented its original report. Although the State Society action was not the prime factor in this decision, it is none the less gratifying to the physicians of Pennsylvania.

At the meeting of the Tristate Conference at Philadelphia in June, Dr. Moses Behrend was one of the principal speakers on Compensation. It was the Chairman's privilege to be present at this meeting, where it was found that the aims of the Medical Societies of New York, New Jersey, and Pennsylvania, looking toward improvement in the compensation laws of the respective states, were very much the same. It was pointed out that so far as the physician and the injured man are concerned, the Pennsylvania Law is in need of much improvement. Dr. Behrend reports as follows:

"It was my privilege to discuss the subject of workmen's compensation before the Tristate Conference held in Philadelphia at the home of the Philadelphia County Medical Society. Argument by the representatives from New York and New Jersey concerning their compensation laws gave the members of the Conference an idea of the interpretation of them. New Jersey seems to have the best and most flexible laws on the subject, largely due to the fact that the Commissioner of Labor is a physician and heads the Compensation Board.

"It is a deplorable fact, always to be remembered, that the physicians of this State were not awake early enough to the importance of the Workmen's Compensation Act. At present, in Philadelphia and Pittsburgh especially, the physician has little redress in obtaining compensation for accident cases treated in the wards of a hospital. For the first three months after the enactment of the Law the physician was paid, and then curiously enough a ban was placed by the insurance carriers on any future payments. Then the Mackey decision was handed down. This I consider the greatest miscarriage of justice. It was an atrocious decision, because it specified that the physician is not entitled to compensation for the cases treated in the ward—this in spite of the fact that a new class of patients had been created by the Act.

"Many obstacles in addition to the above mentioned have worked hardships for the physician: First, the interpretation of the law is entirely in the hands of laymen; the physicians should be represented on this Board. Second, the self-insurers have a very strong organization and a very powerful lobby in Harrisburg when the Legislature is in session. Third, the physician has no standing at law. Fourth, the boards of hospitals do not coöperate with the physician in an attempt to help improve the compensation laws.

"The creation of three medical boards, as proposed by Dr. Lever Stewart, would solve many of our problems. These boards would have representatives chosen

by capital, labor, and the medical profession, and would have three members each.

"Finally, we hope that some of our troubles will be adjusted by a court decision to be handed down in the near future in a case in Dauphin County. This case fulfills all the requirements for the testing of the law in so far as the Mackey decision is concerned."

It was the Commission's privilege to present to the President of the Society, and through him to the Board of Trustees, what were considered by the Commission as ideal cases for use in contesting the Mackey Decision. Dr. Behrend, in January of this year, forwarded a case which the Commission considered met all requirements. The Commission chose to submit the case of Dr. Behrend because it came from Philadelphia where the hospital situation is different from that of other sections of Pennsylvania, with the possible exception of Pittsburgh.

The Commission understands the Society's Counselor found a suitable case in Dauphin County, where it was considered by its members more desirable to seek a court decision. This no doubt will be reported to the Society from the proper source.

LEVER F. STEWART, *Chairman*,
MOSES BEHREND,
HERBERT B. GIBBY,
JOHN T. MACDONALD,
MORRIS A. SLOCUM.

COMMITTEE ON LABORATORIES

To the President and House of Delegates:

ESSENTIALS OF AN APPROVED CLINICAL LABORATORY—DEFINITION

A clinical pathologic laboratory is an institution organized for the practical application of one or more of the fundamental sciences by the use of specialized apparatus, equipment, and methods for the purpose of ascertaining the presence, nature, source, and progress of disease in the human body. Only those clinical laboratories in which the space, equipment, finances, management, personnel, and records are such as will insure honest, efficient, and accurate work may expect to be listed as approved.

LOCATION, HOUSING, AND EQUIPMENT

The housing and light should be adequate for the proper functioning of the laboratory. The equipment should be sufficient to permit all essential technical procedures to be properly carried out.

SCOPE

A general clinical laboratory should be prepared to render the following services:

(a) Hematologic—blood counts, blood grouping and coagulation tests, and tests for blood parasites in general.

(b) Biochemical—qualitative and quantitative analyses of urine, blood, gastric contents, body fluids, feces, intestinal contents, and cerebrospinal fluids, renal- and hepatic-function tests, and basal metabolism.

(c) Bacteriologic—bacteriologic diagnoses, preparation of vaccines and blood, and body-fluid cultures.

(d) Serologic—serologic diagnoses, agglutination, complement fixation, or precipitin and lysis tests.

(e) Pathologic—preparation of paraffin, celloidin, or frozen sections, microscopic and gross pathologic specimens, and necropsies.

(f) Parasitologic—protozoal and zoölogical diagnoses.

PERSONNEL

(a) *The director* of an approved clinical laboratory should be a graduate of an acceptable college or university of recognized standing, indicating proper educational attainments. He shall have specialized in clinical pathology, bacteriology, pathology, chemistry, or other allied subjects, for at least three years. He must be a man of good standing in his profession.

The director shall be on full time, or have definite hours of attendance, devoting the major part of his time to the supervision of the laboratory work.

The director may make diagnoses and prognoses only when he is a licensed graduate of medicine in the State of Pennsylvania, has specialized in clinical pathology for at least three years, is reasonably familiar with the manifestations of disease in the patient, and knows laboratory work sufficiently well to direct and supervise technical procedure and to recognize the clinical value of laboratory reports.

Where the director is not a physician, the laboratory shall issue no reports containing diagnoses and prognoses, unless such diagnoses and prognoses are made and signed by a staff physician licensed to practice medicine in the State of Pennsylvania and having the qualifications specified above for a medical director. The name of the director and—where the director is not a physician—of the staff physician also must appear on all reports and printed matter issued by the laboratory.

(b) *Assistants.* The director may have a corps of qualified assistants and technicians, responsible to him, and for whom he is responsible, to carry out promptly, intelligently, and accurately the several kinds of service the laboratory offers. All their reports, not only of tissues but also of all bacteriologic, hematologic, biochemical, serologic, and pathologic data, should be made to the director, who alone should issue such reports, and if necessary, they should be signed by the qualified staff physician.

REPORTS

An approved clinical laboratory should make its reports through the director. If the director is not a physician, any report making diagnoses or prognoses shall carry also signature of the staff physician, and such reports shall be made solely to the physician in charge of the patient. All blanks for reports and other documents should have the name of the director printed on them, and if of a diagnostic or prognostic character, the name of the staff physician also.

RECORDS

Full records of all examinations made by the laboratory, suitably indexed and filed, are essential. Every specimen analyzed in the laboratory should be given a serial number, which should follow that specimen in the records and reports. When the laboratory report concerns a hospital patient, an exact transcript of the laboratory record should be appended to the hospital case record. Each specimen submitted to the laboratory should have appended pertinent clinical data.

LIBRARY

The laboratory should be provided with, or have convenient access to, a library including current scientific books and journals on all the various subjects required in its work.

FEES

There should be no dividing of fees or rebating between the laboratory or its director and any physician, corporate body, or group.

PUBLICITY

Publicity of an approved clinical laboratory should be in professional good taste and be limited to statements of fact, as the name, address, and telephone number of the laboratory; names and titles of the director and other active responsible personnel; fields of work covered; office hours; directions for sending specimens, etc., and should not contain misleading statements or claims of unusual superiority. It should not advocate medical fads nor lay undue stress on the importance of laboratory findings.

Only the names of those rendering regular service to the laboratory should appear on letterheads, or any other form of publicity, as being connected with the laboratory.

Advertising matter should be directed only to physicians, either through bulletins or through recognized technical journals, and never to the nonprofessional public, as, for example, by announcements in popular journals and periodicals, newspapers, circulars, pamphlets, telephone lists, or other means.

We recommend the continuation of this Committee, and ask that it be given power to refer for approval qualified clinical laboratories in the State of Pennsylvania to the Council of the American Medical Association.

C. Y. WHITE, *Chairman,*
GEORGE D. FUSSEL,
JOSEPH W. MCMEANS,
ROBERT A. KEILTY,
O. H. PERRY PEPPER,
GEORGE R. MOFFITT,
ROY ROSS SNOWDEN,
ERNEST W. WILLETTS,
RANDLE C. ROSENBERGER.

COMMISSION TO CONFER WITH SECRETARIES OF HEALTH AND OF WELFARE

To the President and House of Delegates:

Nothing has occurred during the year requiring a meeting between the Commission as a whole and the State Secretaries of Health and of Welfare, but individual members of the Commission have held a number of conferences with the Secretaries on questions of mutual interest to the members of the medical profession and the work of the two State Departments.

We believe this means of coöperation will, if continued, always be a helpful factor in aiding the work of treating the sick and preventing disease.

HOWARD C. FRONTZ, *Chairman,*
IRA G. SHOEMAKER,
JAY B. F. WYANT,
WALTER F. DONALDSON.

COMMISSION TO STUDY QUARANTINE LAWS

Majority Report

To the President and House of Delegates:

The Commission held a meeting in the office of Dr. Howard Childs Carpenter, Philadelphia, July 28, 1926. There were present: Drs. S. S. Woody, Chairman, Howard Childs Carpenter, Acting Secretary, and George A. Knowles.

The Commission begs to report:

(1) That after a further careful study of the quarantine laws of the State, the Commission reaffirms its recommendations of last year, with the exception that it heartily agrees to the suggestion of the Committee of the House of Delegates that the quarantine period for German measles be five days instead of ten days, as recommended by the Commission last year, and instead of sixteen days as now required by law.

(2) That in the official minutes of the House of Delegates, as printed in the ATLANTIC MEDICAL JOURNAL (page 116, November, 1925, issue), the discussion would indicate that our report had been misunderstood. The report of the Commission for 1925 plainly recommends that measles, German measles, chickenpox, mumps, and whooping cough be not placarded routinely. The Commission, however, is definitely in favor of the quarantining of these five diseases, and for the length of time we have heretofore recommended for each disease.

S. S. WOODY, *Chairman,*
HOWARD CHILDS CARPENTER,
GEORGE A. KNOWLES,
HENRY T. PRICE,
J. DONALD IAMS.

Minority Report

To the President and House of Delegates:

As a member of the Commission I beg to submit the following minority report: After seven years of personal experience in the supervision of the enforcement of the quarantine laws of our State, I can find but little fault with the Laws as they now stand; and with all due deference to the eminent men who compose a majority of this Commission, I find it imperative that I disagree from their report regarding the abandonment of the placard in the quarantine of measles, German measles, chickenpox, mumps, and whooping cough.

If the placard be abandoned in these diseases, we might as well abandon the quarantine as well. Without the placard, the enforcement of the quarantine regulations would be nil; and if the quarantine regulations are not enforced, the quarantine is absolutely worthless.

A few years ago, for financial reasons, the Department was compelled to cut down the remuneration of rural health officers, with the result that enforcement of quarantine regulations in the rural districts is today extremely lax, and in many cases no quarantine is ever established at all. With the financial stringency now removed and the State treasury in good condition, the Legislature should at once give to the Department of Health such an appropriation as will enable it properly to remunerate rural health officers, and then demand efficient service.

The abandonment of fumigation of houses before release from quarantine should, in my opinion, be resumed, for even if we concede, which we do not, that it is inefficient for the destruction of germs, when properly done, it at least compels the proper cleaning and airing of the premises and the contents thereof. Many people in the rural districts believe in fumigation, and would if possible require it. The same thing is true regarding placarding of communicable diseases. People want it and believe in it, and it should by no means be abandoned.

In Clearfield, with a population of 10,500, the people all believe in both the use of the placard and the rigid enforcement of quarantine, except a few who do not like it when it applies to their own household, and

even they believe in it fervently when it applies to their neighbor, and they call me immediately if they have reason to believe their neighbor is hiding a case of communicable disease. In this way, we have, in several instances, found as many hidden cases as were reported to us by doctors. As a result, we have not had an epidemic in Clearfield for nearly three years.

I must, then, reiterate what I said in my minority report last year, that the abandonment of the placard in quarantining would be a step backward in the matter of public health.

J. M. QUIGLEY.

COMMITTEE TO REVISE THE CONSTITUTION AND BY-LAWS

To the President and House of Delegates:

Your Committee appointed to revise the Constitution and By-Laws begs to report as follows:

In the interest of better functioning of our organization, we make the following suggestion, which we believe should have publicity and study by a committee of the House for presentation to the 1927 House of Delegates:

In Article VIII, Section 1, and in Chapter V, Section 3 and Section 5, we suggest the necessary changes to combine the offices of the Secretary and the Treasurer into one, Secretary-Treasurer.

The proposed amendments to the Constitution and By-Laws, which your Committee presents for action, were published in the July number of the ATLANTIC MEDICAL JOURNAL, and are herewith published as a part of this report.

CONSTITUTION

ARTICLE IV

SECTION 2.—Beginning on line 8 strike out the words "The assessment of new members elected and reported between July first and November first shall be one-half the annual assessment." If this amendment is adopted, all newly elected members will be required to pay the full year's dues.

SECTION 5.—In line 4, after the word "participate" insert the word "only." Strike out the words "They shall not be entitled to vote, nor to hold office, nor be eligible to membership." The adoption of this amendment will merely eliminate verbiage.

ARTICLE V

In line 3, after the word "delegates" insert the words, "or accredited alternates." This amendment provides for the official recognition of alternates to the House of Delegates.

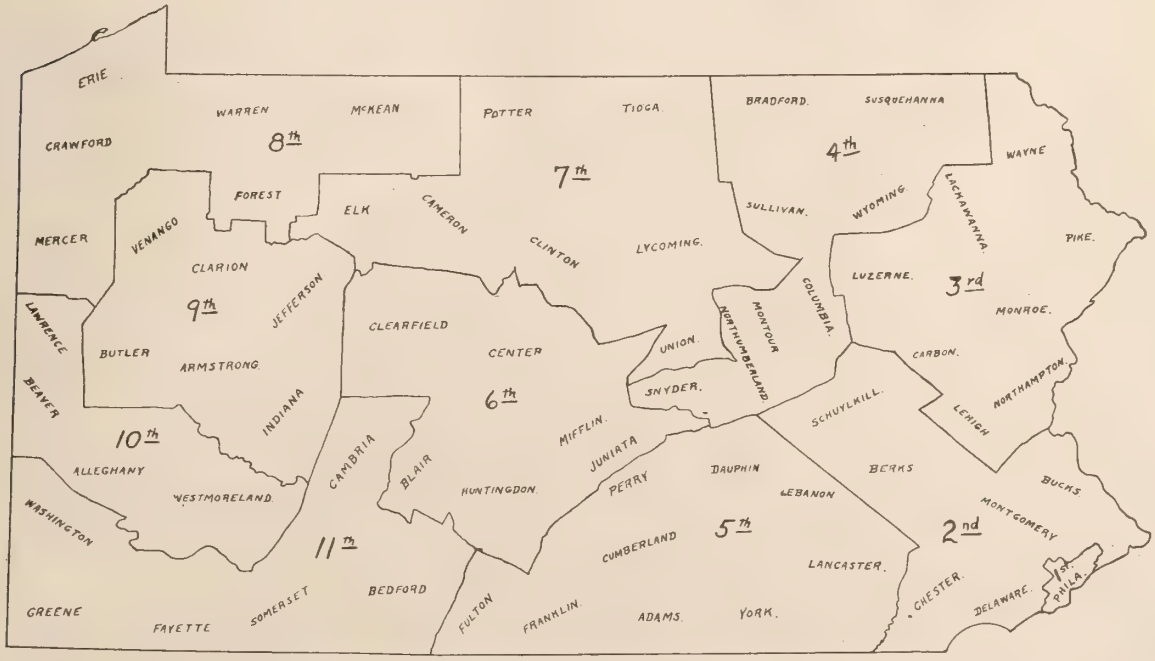
In line 7 strike out the word "secretaries" and insert the word "presidents." In line 8 strike out the word "secretary" and insert the word "president." In line 9 strike out the word "president" and insert the word "secretary." This amendment was introduced in 1925 for action of the 1926 House of Delegates. If adopted, the secretary of a component county society will automatically become a delegate from his society, and the president will become the alternate, reversing the present arrangement.

ARTICLE VIII

SECTION 1.—Strike out the word "ten" in line 3 and insert the word "eleven." This amendment was introduced to provide for an increase in the number of trustees and councilors if certain proposed amendments to the By-Laws are adopted.

SECTION 1.—In line 2 strike out the words "four vice presidents" and insert the words "a vice president."

SECTION 3.—Amend the first sentence to read as follows: "Two trustees shall be elected by the House of Delegates annually, except each fifth year when three shall be elected, to serve for a period of five years." The adoption of the proposed changes in Chapter III would result in readjustment of the councilor districts and the creation of a new district, these changes being based upon the recommendations of a committee of the Board of Trustees. The duties of district censors and



COUNCILOR DISTRICTS, IF PROPOSED AMENDMENTS ARE ADOPTED.

the method of their nomination and election would remain unchanged. Censorial districts, however, would be eliminated.

BY-LAWS

CHAPTER I

SECTION 2.—In line 2, after the word "section" insert the words "in session."

CHAPTER II

Omit Section 7, renumbering present Section 8, Section 7.

CHAPTER III

Amend subject heading to read "Councilor Districts."

Amend Section 1 to read as follows: "The State of Pennsylvania shall be divided into eleven councilor districts, and each district shall be entitled to one councilor. The councilor districts shall be composed of the following counties:

First Councilor District: Philadelphia County.

Second Councilor District: Berks, Bucks, Chester, Delaware, Montgomery, and Schuylkill Counties.

Third Councilor District: Carbon, Lackawanna, Lehigh, Luzerne, Monroe, Northampton, Pike, and Wayne Counties.

Fourth Councilor District: Bradford, Columbia, Montour, Northumberland, Susquehanna, Snyder, Sullivan, and Wyoming Counties.

Fifth Councilor District: Adams, Cumberland, Dauphin, Franklin, Fulton, Lancaster, Lebanon, Perry, and York Counties.

Sixth Councilor District: Blair, Center, Clearfield, Huntingdon, Juniata, and Mifflin Counties.

Seventh Councilor District: Cameron, Clinton, Elk, Potter, Tioga, Lycoming, and Union Counties.

Eighth Councilor District: Crawford, Erie, Forest, Mercer, McKean, and Warren Counties.

Ninth Councilor District: Armstrong, Butler, Clarion, Indiana, Jefferson, and Venango Counties.

Tenth Councilor District: Allegheny, Beaver, Lawrence, and Westmoreland Counties.

Eleventh Councilor District: Bedford, Cambria, Fayette, Greene, Somerset, and Washington Counties.

SECTION 2 shall be amended to read as follows: "Each councilor district shall have a separate board of censors. The board shall be formed by the House of Delegates of this Society electing one censor from each component county medical society in the councilor district. Each component county medical society is requested to present to the House of Delegates for its consideration the name of a suitable member for district censor."

SECTION 3 shall be amended to read as follows: "The censors of each district shall consider every case of appeal from the decision of a component county medical society by a member who has been censored, suspended, or expelled, provided that the appeal is made within three months after the censure, suspension, or expulsion. They shall report in writing their decision thereon to the county medical society, and also to the councilors of this Society. They shall consider and dispose of all questions affecting the principles of medical ethics that may be referred to them, either by a component county medical society or by this Society. The decision of the censors in every case must be signed by a majority of the board. In case a district contains an even number of censors, and a tie vote results, the councilor for that district shall cast the deciding vote. Any appeal or judicial question arising in a district composed of less than three county societies shall be referred directly to the judicial council of this Society."

SECTION 4 shall read as follows:: "Each councilor district shall hold a district meeting each year for the purpose of increasing acquaintance, good fellowship, and organization among the physicians of the district. Only members of a component medical society in that district shall be eligible to membership or office at such meeting, but all physicians residing in the district who are eligible to membership in a component county medical society shall be invited to the meetings."

CHAPTER V

SECTION 7.—The first sentence of the last paragraph shall be amended to read as follows: "Regular meetings of the Board shall be held immediately after the annual session of this Society, and on the first Tuesday in February and the second Tuesday in May of each year." Adoption of this amendment will provide for one less regular interim meeting of the Board of Trustees than at present.

CHAPTER VI

SECTION 8.—After the word "Secretary" insert the words "Editor of the JOURNAL." Adoption of this amendment will include the Editor of the JOURNAL as a member of the Press Committee."

CHAPTER VIII

Omit SECTION 2, renumbering the following sections in the chapter accordingly.

SECTION 3 shall be amended to read as follows: "Remembering that the component county medical society is the only portal to this Society and the American Medical Association, in considering the qualifications of applicants for membership, using due diligence so that only reputable, registered physicians, citizens of the United States, may be admitted to membership, each component county medical society shall make formal inquiry regarding such applicants of the Biographic Department of the American Medical Association." Adoption of this amendment will make a little more specific the investigation of qualification of applicants for membership.

SECTION 4.—In the last line, between the words "the" and "district" insert the word "councilor." This change is necessitated by adoption of the amendment to Chapter 3.

SECTION 7.—In the last line, after the word "district" add the words, "but no physician shall at the same time hold membership in more than one component county medical society."

SECTION 11 shall be amended to read as follows: "The secretary of each component county medical society shall remit to the Secretary of this Society, promptly upon receipt, the amount of the annual assessment of the members of his society, together with a copy of the receipt given to the members of his society. He shall promptly notify the Secretary of this Society of any change of address of the members of his society, and of losses in membership, giving the cause, such as death (with date), resignation, transfer, removal (with present address), or expulsion. He shall upon request furnish the Secretary of this Society with a list of the officers and members of his county medical society, and shall report new members as soon as they are qualified as members of his society, remitting at the same time the amount of the member's annual assessment."

WM. H. MAYER, *Chairman,*
HOWARD C. FRONTZ,
WALTER F. DONALDSON.

REPORTS OF DELEGATES TO OTHER SOCIETIES

DELEGATES TO THE 1926 SESSION OF THE AMERICAN MEDICAL ASSOCIATION

To the President and House of Delegates:

Our Society was represented in the House of Delegates of the American Medical Association, which convened at Dallas, Texas, on Monday, April 19th, by the following duly elected delegates: J. Norman Henry, Orlando H. Petty, Arthur E. Crow, John A. Campbell, William H. Mayer, J. Newton Hunsberger, Samuel P. Mengel, and Walter F. Donaldson; and by the following duly elected alternates at large: S. J. Waterworth and George W. Reese. The members of our delegation served faithfully in accordance with the best traditions of our Society. Dr. Henry was appointed a member of the Reference Committee on Reports of Officers, and Dr. Hunsberger of the Reference Committee on Medical Education.

The House approved of a resolution introduced recommending the modification of the present curriculum for the training of nurses, reducing the course for registered nurses to two years, permitting an additional year of training, and the granting of an appropriate degree for students wishing to qualify for work of a more or less supervisory character.

A commission was authorized to study and report in 1927 on the subject of contract and group practice.

The total registration was 4,179, of which number 2,256, or 54 per cent of the total, registered from Texas and Oklahoma. Eighty-three members from the Medical Society of the State of Pennsylvania registered in attendance.

WALTER F. DONALDSON, *Secretary.*

DELEGATE TO THE PENNSYLVANIA PHARMACEUTICAL ASSOCIATION

To the President and House of Delegates:

On June 15, 1926, I attended the annual convention of the Pennsylvania Pharmaceutical Association at Buena Vista Springs, as appointed delegate from the Medical Society of the State of Pennsylvania.

I extended greetings from our Society, and congratulated the Pharmaceutical Society on having selected such a beautiful spot for their convention. The mountains of Franklin County, Pennsylvania, cannot be surpassed for beauty.

I emphasized the importance of close coöperation between the physician and the pharmacist, and expressed the hope that this would be continued in the future as in the past. I commended the members of the Association for the interest they were taking in the art and science of refining drugs and pharmaceutical preparations, also for influence and aid given in raising the standards of education required of graduates in pharmacy. I mentioned the importance of vaccines and serums in present-day methods of preventing and alleviating human suffering, and gave great credit to the efforts of chemist and pharmacist in their development.

I asked them to continue their efforts in trying to combat the attempts of drugless cultists who seek, without adequate training or experience, license to treat the sick.

I asked that they send a delegate to be present at our opening meeting to be held in Philadelphia, Tuesday morning, October 12, at the Bellevue-Stratford Hotel.

S. D. SHULL.

The Woman's Auxiliary of the Medical Society of the State of Pennsylvania

MRS. W. WAYNE BABCOCK, *Editor*
Rydal, Pa.

THE ANNUAL MEETING

Plans are practically completed for the entertainment of the women in attendance at the annual meeting of the Medical Society of the State of Pennsylvania and the Woman's Auxiliary, to be held in Philadelphia, October 11th to 14th.

The Women's Registration Booth will be found in the foyer on the first floor, just outside the entrance to the Ball Room. Here, all women visiting the session are requested to report for registration on arrival, as this will be the headquarters for information, literature, badges, tickets, etc.

All motor vehicles in the various trips scheduled for the entertainment of the women will start from the Philadelphia County Medical Society Building, Southeast corner of 21st and Spruce Streets. Luncheon will be served daily in this building, and it will be a very comfortable meeting place.

All wives, mothers, daughters, and sisters of members of the State Medical Society are invited to attend the sessions of the Auxiliary and to become affiliated with the organization. The officers will be glad to discuss the organization of additional counties, as well as problems which may have arisen in the existing county auxiliaries.

THE PROGRAM

MONDAY, OCTOBER 11

5:30 p. m. Supper for the Executive Board.

8:00 p. m. Theater party for members of the House of Delegates and their wives (tickets and information at the Women's Registration Booth).

TUESDAY, OCTOBER 12

9:30 a. m. Junior Room, the Bellevue-Stratford. Conference for county auxiliary presidents and secretaries. Called by the State Auxiliary president for the purpose of unifying methods of correspondence, collection of dues, etc.

9:30 a. m. Meeting of the Nominating Committee.

10:30 a. m. All members of the Auxiliary are urged to hear the address by President Albertson of the State Medical Society, as it is most instructive to have the president's point of view as to the work of the coming year. Ball Room of the Bellevue-Stratford.

2:00 p. m. Drive starting from the County Medical Building. Reception at the home of Dr. and Mrs. W. Wayne Babcock. Mrs. McReynolds, president, and Mrs. Bunce, secretary, of the Woman's Auxiliary of

the American Medical Association, will be the guests of honor.

8:00 p. m. Women's theater party (tickets and information at the Women's Registration Booth).

WEDNESDAY, OCTOBER 13

9:30 a. m. Philadelphia County Medical Society Building. General session of the Woman's Auxiliary, open to all visiting women. Reports from county auxiliaries, and election of officers.

11:30 a. m. Drive to the Navy Yard and the Sesqui-Centennial grounds, and luncheon.

8:00 p. m. Ball Room of the Bellevue-Stratford. Popular lecture on public health by Dr. Victor Heiser.

9:30 p. m. Ball Room of the Bellevue-Stratford. President's reception and ball.

THURSDAY, OCTOBER 14

Morning. Visit to the Sesqui-Centennial. Luncheon at the Pennsylvania Building. Addresses by Dr. Charles H. Miner, State Secretary of Health, and Dr. Wilmer Krusen, Director of the Philadelphia Department of Health.

Medical News

Deaths

GEORGE W. MCNEIL, M.D., of Pittsburgh; Jefferson Medical College, 1874; aged 76; July 25.

MRS. CARPENTER, widow of John T. Carpenter, M.D., of Pottsville; recently, in California.

ROBERT B. VARDEN, M.D., of Mercersburg; University of Maryland, 1882; aged 68; August 3.

CLAYTON D. FRETZ, M.D., of Sellersville; University of Pennsylvania School of Medicine, 1868; aged 82; August 17.

HERMAN H. BIRNEY, M.D., of West Philadelphia; University of Pennsylvania School of Medicine, 1889; aged 60; August 25.

GEORGE F. HARTMAN, M.D., of Norristown; Jefferson Medical College, 1885; aged 63; August 27, suddenly.

CHARLES J. HAHN, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1900; aged 61; August 23, at Atlantic City, N. J.

DR. JOHN GEORGE ADAMI, Vice Chancellor of Liverpool University, England, and noted pathologist, died August 29 at Liverpool, aged 64 years.

SAMUEL S. WOODBURN, M.D., of Pittsburgh; Jefferson Medical College, 1882; aged 67; in June, of angina pectoris.

LOUIS M. KRIDEL, M.D., of Pittsburgh; University of Pennsylvania School of Medicine, 1919; aged 30; August 8, by drowning.

DAVID E. FITZGERALD, M.D., of Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1894; aged 78; August 16.

EDWARD J. FLANAGAN, M.D., of Wilkes-Barre; Jefferson Medical College, 1911; member of the Mercy Hospital staff; aged 45; July 29.

JAMES H. WHITCRAFT, M.D., of Wilkinsburg; Johns Hopkins University Medical Department, Baltimore, Md., 1910; aged 44; July 21.

ALBION J. MARSTON, M.D., of Belle Vernon; University of Pittsburgh School of Medicine, 1906; aged 47; June 21, of tumor of the brain.

GEORGE MARTIN, M.D., of Conemaugh; Jefferson Medical College, 1885; ex-coroner of Cambria County; Pennsylvania Railroad physician more than thirty years; aged 67; August 13.

GEORGE H. GILDERSLEEVE, M.D., of Philadelphia; University of Pennsylvania School of Medicine, 1899; aged 50; July 25, from a complication of diseases.

CHARLES J. SCHNEIDER, M.D., of Philadelphia; Jefferson Medical College, 1896; served as a surgeon in the Spanish-American War; organizer and first president of the Æsculapian Medical Club of Philadelphia; aged 56; August 18, of heart disease.

JOHN FRANCIS HALL-EDWARDS, of Birmingham, England, who devoted twenty-eight years of his life to experimenting with and perfecting the x-ray, died August 15. He was one of the pioneers in x-ray investigation, and continued the work despite the heavy handicap of the loss of both hands through x-ray burns.

ALLEN J. SMITH, M.D., of St. Davids; University of Pennsylvania School of Medicine, 1886; professor of pathology at the University of Pennsylvania since 1909, and former dean of the Medical School; aged 63; August 18. Dr. Smith was a brother of Dr. Edgar Fahs Smith, former provost of the University, and father of Dr. Gibson Smith, of New York. Dr. Smith was honored by many universities and colleges, and at various times was the recipient of honorary degrees. During the World War he served as a Major in the Medical Corps of the United States Army.

Births

To DR. AND MRS. DAN PHYTHYON, of Sharpsville, a son, July 24.

To DR. AND MRS. NELSON J. BAILEY, of Sharpsville, a daughter, August 9.

To DR. AND MRS. JAMES E. T. OXLEY, of Harrisburg, a son, James E. T. Oxley, Jr., July 16.

To DR. AND MRS. WALTER F. DONALDSON, of Pittsburgh, a son, William Paul Donaldson, July 25.

To DR. AND MRS. HENRY P. BROWN, JR., of Philadelphia, a son, Thomas Sterling Brown, July 11.

To DR. AND MRS. MYER SOLIS-COHEN, of Philadelphia, a daughter, Kathie Teschner Solis-Cohen, July 15.

Engagements

MISS ANNE GREENBERGER, of Pittsburgh, to Dr. Henry Pohl, of Johnstown.

MISS NORAH HUTCHINSON, daughter of Dr. and Mrs. R. J. Hutchinson, of Surrey, England, to John Chalmers Da Costa, son of the late Dr. J. C. Da Costa, of Philadelphia.

Marriages

MISS MARION EVANGELINE HENRY, of Cleveland, to Mr. William R. Spiller, son of Dr. and Mrs. Wm. G. Spiller, of Philadelphia, June 28.

MISS KATHERINE C. GITTINGS, daughter of Dr. and Mrs. J. Claxton Gittings, of Philadelphia, to Mr. Harold Hamilton Gade, also of that city, August 17.

MISS ELIZABETH NORRIS TUTTLE, of Bryn Mawr, to Mr. Donald Elliott Wilbur, son of Dr. and Mrs. Bertrand K. Wilbur, of Haverford, September 8.

MISS SOPHIE MATUCK and Dr. Herman Brown, both of Philadelphia, July 25. Dr. Brown was graduated last year from the Temple University School of Medicine.

MISS HELEN REEVES, daughter of Dr. and Mrs. Joseph M. Reeves, of Philadelphia, to Mr. Frederick

Charles King, son of Mr. and Mrs. Edward King, of Seven Kings, England, August 14.

Miss Estelle Spielman, of Philadelphia, to Dr. Aaron Capper, of Jefferson Hospital, Philadelphia, August 29. Dr. Capper has been awarded the Corinna Borden Keen Research Fellowship by Jefferson Medical College, and will spend the coming year in medical research in Vienna, Germany, and Paris.

Miscellaneous

Dr. George B. Kunkel, of Harrisburg, attended the Mayo Clinic at Rochester, Minn., recently.

Dr. and Mrs. Elmer E. Pownall, of Richboro, have returned from a two months' tour of Europe.

Dr. Henry D. Jump, of Philadelphia, is spending some time in Europe, and will return to his home the middle of September.

Dr. A. A. Barton, of Plains, the oldest member of Luzerne County Medical Society, celebrated his fiftieth anniversary on August 12.

The new west wing of the Warne Hospital at Pottsville was formally opened recently, and was inspected by hundreds of people.

The Rockefeller Foundation last year spent $9,113,730 through its International Health Board, Division of Medical Education and Division of Studies.

Dr. and Mrs. Samuel Z. Shope, of Philadelphia, sailed August 11 for Europe, where Dr. Shope will spend several months in medical research in Vienna, Berlin, and Zurich.

Dr. C. Hayden Phillips, of Wilkes-Barre, who has been abroad for the last four and a half months studying children's diseases, resumed his practice September 1st.

Dr. G. Harlan Wells, of Philadelphia, was elected president-elect of the American Institute of Homeopathy, at the 82d annual convention held at Philadelphia in July.

Dr. Jacob Hoffman, of Philadelphia, has been awarded a year's research in Berlin and Vienna for meritorious work during his internship at Mount Sinai Hospital, which he has just completed.

The University of Pennsylvania is building a new hospital at the southeast corner of Nineteenth and Lombard Streets, Philadelphia, which will cost $1,152,000. The building will adjoin buildings formerly occupied by the Polyclinic Hospital, which several years ago merged with the University of Pennsylvania.

Plans have been submitted to the Hospital Association for building a hospital in Quakertown, to be known as the Quakertown Community Hospital, and which will have facilities for handling forty patients. A campaign is being inaugurated to raise the $250,000 necessary to build and endow the institution.

Bertha Gill Johnston, wife of Dr. James I. Johnston, of Pittsburgh, had twenty-nine of her paintings on exhibition at Alumni Hall, Chautauqua, N. Y., July 22 to 28, 1926. Mrs. Johnston's paintings have been selected for hanging in the annual exhibits in the Carnegie Art Galleries in Pittsburgh a number of times.

Dr. Charles H. Frazier, professor of surgery, University of Pennsylvania School of Medicine, has left for a five-months' trip in China, where he will make a study of social and medical conditions in the Chinese Republic. He will deliver an address before the Chinese Medical Society at Peking this month.

Frederick E. Bedale, Greensburg, has been appointed by Governor Pinchot as manager of the State Workmen's Insurance Fund. He has had charge of the coalmine section of the Fund, and for several years has represented the Fund on the executive committee of the Pennsylvania Compensation Rating and Inspection Bureau.

Dr. L. Webster Fox, of Philadelphia, who has spent the last two summers among the American Indians in trachoma-eradication work, is working this summer among the Crow Indians at Billings, Mont. Dr. Fox held a clinic at Browning, Mont., August 10, which was attended by twenty-eight physicians of the Indian service.

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following places on October 4, 1926: Washington, D. C., Chicago, Ill., New Orleans, La., and San Francisco, Calif. Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

The Inter-State Postgraduate Assembly of North America will hold its annual meeting in Cleveland, Ohio, October 18-22, 1926, with general headquarters for all scientific sessions and exhibits in the Municipal Auditorium. The hotel headquarters will be the Hotel Cleveland. A wonderful program is being arranged which includes the most prominent physicians from all parts of the world.

A social and intellectual meeting of the McKeesport Academy of Medicine was held at the home of Dr. John Porter, August 3. The address of welcome was made by Dr. Porter. Dr. J. M. Thorne, of Pittsburgh, spoke on "The New Pharmacopeia," and Dr. Carl Guffey, of McKeesport, read a paper on "The Future of Medicine in General." Dr. D. C. Hoffman, one of the oldest physicians of McKeesport, spoke on "Medicine in the Past."

Dr. William Devitt, of Philadelphia, founder of Devitt's Camp, Allenwood, has announced a gift of $50,000, which will be spent for camp extensions. Among the improvements will be a girls' dormitory which will cost $30,000, an extension to the hospital costing $10,000, and $3,000 for enlargement of Recreation Hall. This will make Devitt's Camp one of the largest sanitoriums for the treatment of tuberculosis in the East. There are now 112 patients receiving treatment.

Drs. P. S. Pelouze and Frederick S. Schofield, of Philadelphia, have been awarded the Alverengo Prize for the best essay on medical research work, by the College of Physicians of Philadelphia. The winning essay was based on special research work in urology done by Drs. Pelouze and Schofield. The prize is held highly in medical circles, and competition for it is world-wide. Should no essay be considered worthy of the honor, the award is withheld. That has happened several times.

Thirty physicians of Philadelphia met recently to form a Physicians' Square Club and elect officers. The Physicians' Square Club is a national organization composed of physicians who are members of the Masonic Order, and in good standing in their profession. The club's aim is to raise the ethical standards of the medical profession. It was announced that the national convention of the club would be held in Philadelphia the last week in September, with delegates from similar organizations in Europe attending.

Through a provision in the will of the late Dr. J. William White, one time John Rhea Barton professor of surgery, the University of Pennsylvania is the recipient of a $150,000 bequest, the income of which is to be devoted to a chair of research surgery. The incumbent, when appointed, will be attached to the surgical staff with clinical facilities in the University Hospital. Beds in the surgical wards will be provided for patients with lesions related to the problem or problems under investigation.

The United States Public Health Service has issued to E. R. Squibb & Sons the first license ever granted for the manufacture and sale of erysipelas antitoxin. This antitoxin is marketed under an exclu-

sive license from the School of Medicine and Dentistry of the University of Rochester, Rochester, N. Y. The license provides, among other things, that samples of each lot of Erysipelas Antitoxin Squibb must be submitted to the University for test and approval before distribution. E. R. Squibb & Sons have opened a depot in Pittsburgh at 604 Maloney Bldg., 339 Second Avenue, so that their products may be available at any hour to physicians and pharmacists.

ADVICE HAS BEEN RECEIVED from Mr. J. M. White, East Waterford, Pa., that a physician is needed in that town and surrounding country. The last and only physician in that locality, who died last spring, practiced there forty-eight years. East Waterford has a population of about three hundred with several smaller towns near by. On one side of the valley there is no physician between Port Royal and Dry Run, a distance of almost forty miles. Most of the people own their homes and collections are good. Mr. White considers this a splendid location for a young man looking for a good country practice, and is willing to show him around and help him get located. Please direct all communications to Mr. White.

DR. J. FRANK ROWLES, of Mahaffey, Pa., states that on July 26 a man who purported to be a veteran of the World War, accompanied by a woman and a small child, called at his office to obtain morphin for the relief of pain in a badly mangled leg, due to a shrapnel wound. The man stated he was in great pain, and was on his way to the West Penn Hospital, at Pittsburgh, for observation and treatment. The next day the woman returned to the Doctor to obtain other tablets, stating that the child had upset the previous tablets obtained, and they were unable to be used. The Doctor found subsequent to this visit, that his morphin and codein tablets had been stolen, and is of the opinion that they were taken by these people. He has since investigated all of the statements made by the man in question, and has been unable to find any truth in them. The man gave the name of Harold Reed, aged 28, and the address Falls Creek, Pa.



MR. RALPH R. PATCH

ELECTED PRESIDENT

The American Pharmaceutical Manufacturers' Association at its annual June meeting at Lake Placid, N. Y., elected Ralph R. Patch, president. Mr. Patch is the president and general manager of the E. L. Patch Co., of Boston, Mass., manufacturers of Patch's Flavored Cod-Liver Oil. The American Pharmaceutical Manufacturers' Association comprises the large manufacturers of preparations used by the medical profession, and physicians are therefore interested in the personality of its officers. Mr. Patch has served the Association for several years as its secretary-treasurer.

THE TRUSTEES of the University of Pennsylvania and the Diagnostic Hospital of Philadelphia have filed a petition in common pleas court for permission to merge the hospital with the Graduate School of Medicine of the University. The agreement sets forth, it is reported, that Dr. Henry B. Ingle of the Diagnostic Hospital staff shall be the first director of the diagnostic clinic of the graduate school of medicine, and that the university shall establish the clinic within a year from the date of occupancy of the hospital building soon to be erected at Nineteenth and Lombard streets, for which a permit was granted by the Bureau of Building Inspection, July 27. The agreement provides, also, that the dean of the graduate school of medicine, George H. Meeker, Ph.D., and Dr. Ingle, the director of the clinic, shall endeavor to arrange so that other members of the staff of the Diagnostic Hospital may assist in the work of the graduate school. It is further agreed that all assets of the hospital shall be transferred in fee simple to the university to be held as a separate trust fund to be known as "The Endowment Fund of the Diagnostic Hospital," to be invested and the income to be used for the general purposes of hospitals.

PHILADELPHIA MEDICAL AND SURGICAL FIRSTS

1755 First hospital—the Pennsylvania, Benjamin Franklin, originator.
1762 First school of anatomy, Dr. Wm. Shippen.
1765 First medical college (branch of the College of Philadelphia) founded by Dr. John Morgan. First graduate in medicine, John Archer.
1768 First medical society.
1787 First College of Physicians.
1793 First sulphuric acid, John Harrison.
1798 First oil of vitriol, John Harrison.
1802 First oxygen blowpipe, Dr. Robert Hare.
1820 First permanent medical journal, now the American Journal of the Medical Sciences.
1821 First college of pharmacy in the world.
1823 First ether, Rosengarten & Son.
1832 First quinine, Rosengarten & Son.
1832 First hospital for the blind (Wills Eye Hospital).
1834 First strychnine, Rosengarten & Son.
1834 First nitric acid and first hydrochloric acid, Carter & Scattergood.
1836 First hospital for the insane.
1848 First homeopathic medical college.
1850 First women's college.
1852 First medical degrees given to women.—*Selected.*

HOTEL RESERVATIONS FOR THE WASHINGTON SESSION OF THE A.M.A.

Dr. John Allan Talbott, 1621 Connecticut Avenue, N. W., Washington, D. C., is the chairman of the Committee on Hotels of the Local Committee of Arrangements for the 1927 Annual Session, to be held in Washington, D. C., May 16-20. Reservations for rooms are already being made. Dr. Talbott will be glad to do what he can to help members and Fellows of the Association to secure satisfactory hotel accommodations for the time of the session.—*Jour. A. M. A.*, July 24, 1926.

HOSPITAL COLOR SCHEME

In the new Medical School and Hospital of the University of Colorado, at Denver, the color problem for walls and furnishings has been worked out in detail. The x-ray room has walls of a violet red, which has great light-absorption power, yet exerts a quieting influence on the patient, and is slightly stimulating to the operator. In the operating theater a soft gray is used. The wards for disturbed patients have yellowish green walls because this color has been found to have a tranquilizing and cheerful influence. Rooms with a northern exposure have yellow walls, and those with a southern outlook with sunshine, gray walls and furnishings.—*Selected.*

A community today without easy access to a good hospital is seriously handicapped.

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angiomegaly
angiodiascopy
anoxybiosis
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apsychosis
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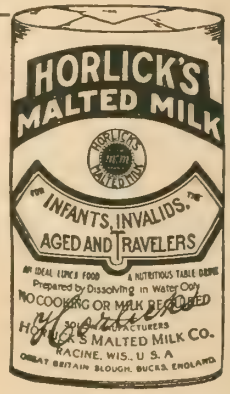
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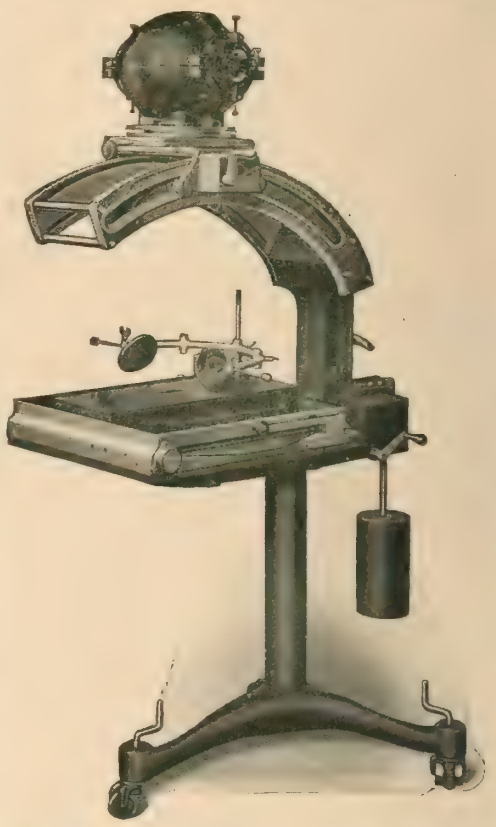
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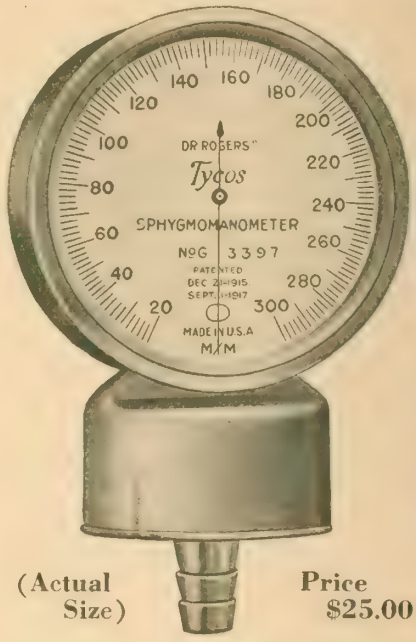
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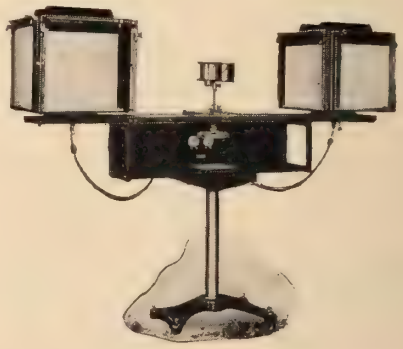
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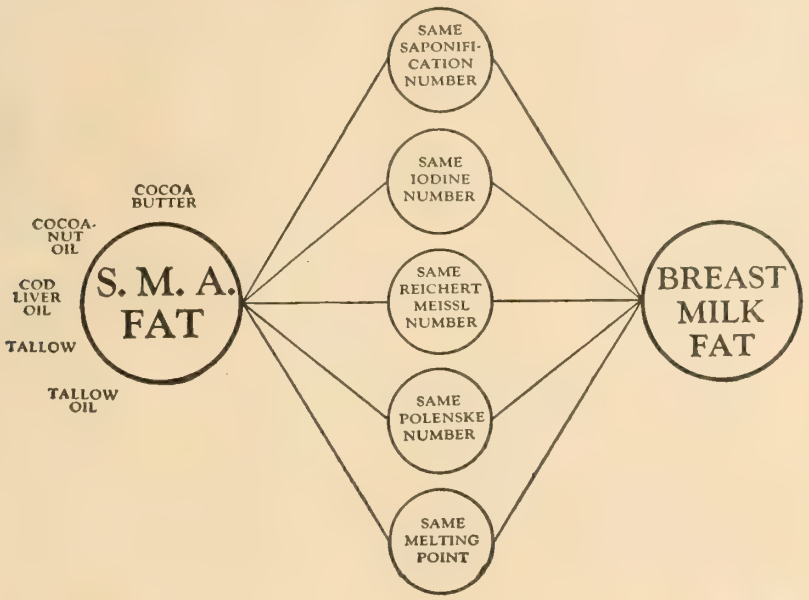
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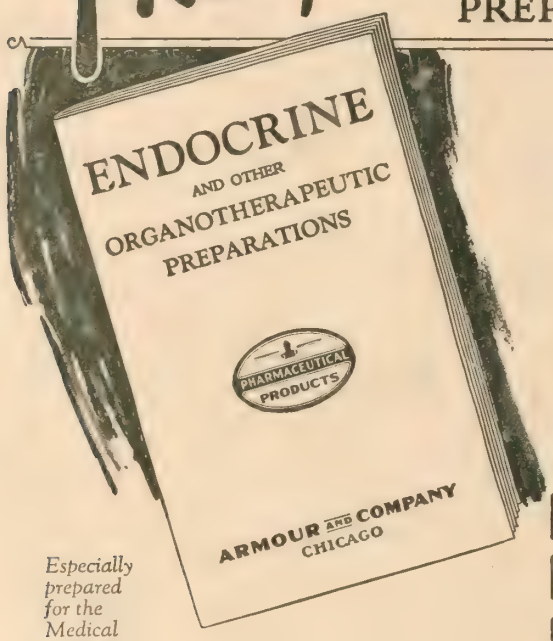
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